

REVISIONS
Revision #

SUBMISSIONS

BID DOCUMENTS

VA FORM 08-6231

65% DESIGN DEVELOPMENT

95% CONSTRUCTION DOCUMENTS

100% SUBMITTAL DOCUMENTS

Description

Date

1-23-15 2-25-15

5-29-15

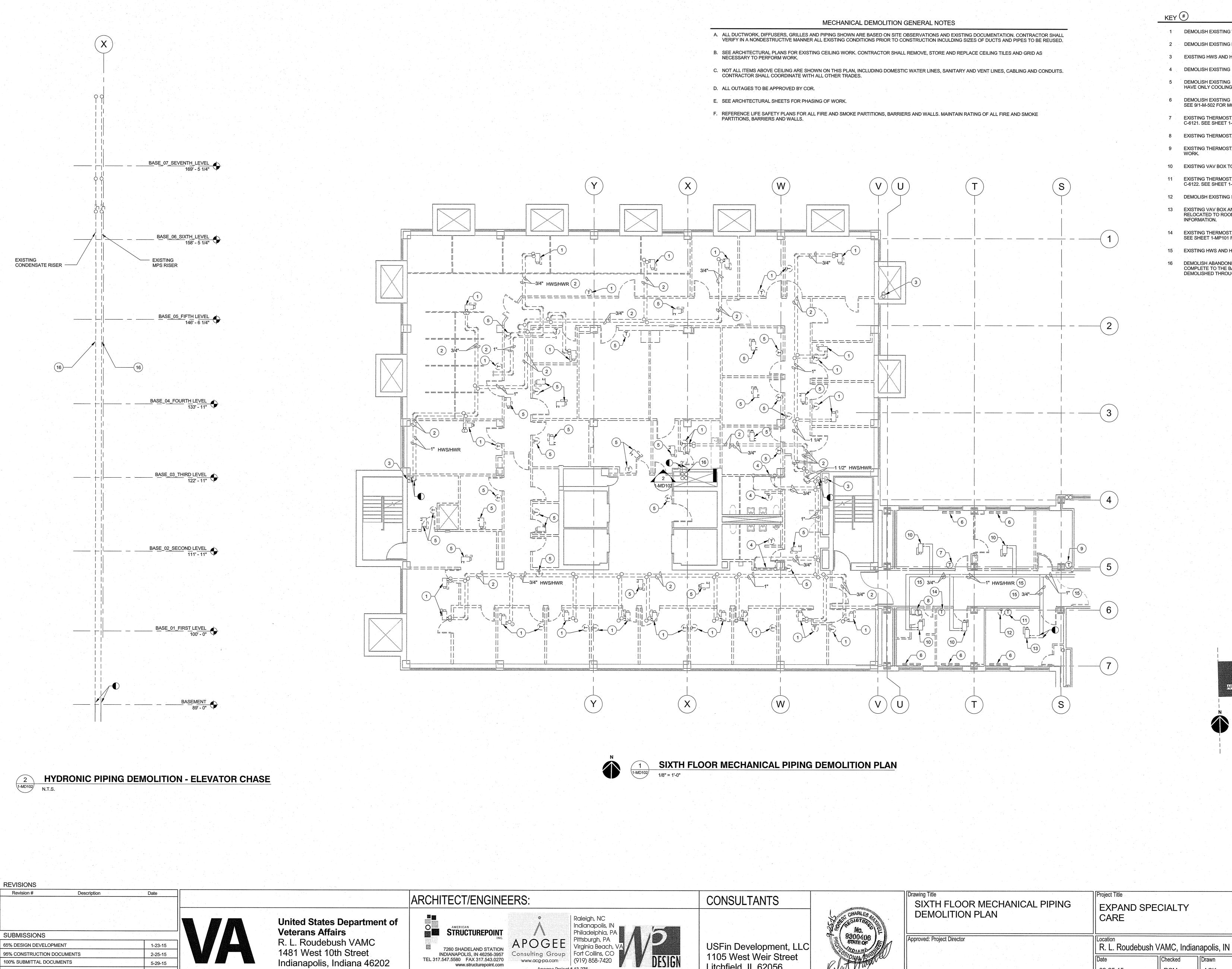
9-25-15

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- 1 DEMOLISH EXISTING VAV BOX AND CONTROLS COMPLETE.
- 2 DEMOLISH EXISTING HWS AND HWR PIPING BACK TO THE LIMIT OF DEMOLITION.
- 3 EXISTING HWS AND HWR RISERS TO REMAIN.
- 4 DEMOLISH EXISTING WALL MOUNTED HEATER AND CONTROLS COMPLETE.
- DEMOLISH EXISTING VAV BOX AND CONTROLS COMPLETE. NOTE THESE VAV BOXES HAVE ONLY COOLING CAPABILITIES.
- DEMOLISH EXISTING STEAM RADIATOR COMPLETE. CAP STEAM PIPING AT FLOOR. SEE 9/1-M-502 FOR MORE INFORMATION.
- 7 EXISTING THERMOSTAT TO BE REMOVED, STORED AND RELOCATED TO ROOM
- C-6121. SEE SHEET 1-MP101 FOR MORE INFORMATION.
- 8 EXISTING THERMOSTAT TO REMAIN.
- EXISTING THERMOSTAT TO REMAIN. VAV BOX IT CONTROLS IS NOT IN SCOPE OF
- 10 EXISTING VAV BOX TO REMAIN.
- EXISTING THERMOSTAT TO BE REMOVED, STORED AND RELOCATED TO ROOM C-6122. SEE SHEET 1-MP101 FOR MORE INFORMATION.
- 12 DEMOLISH EXISTING STEAM RADIATOR CONTROLS COMPLETE.
- EXISTING VAV BOX AND COIL TRIM TO BE REMOVED, CLEANED, STORED AND RELOCATED TO ROOM C-6122. SEE SHEETS 1-MH101 AND 1-MP101 FOR MORE
- EXISTING THERMOSTAT TO REMOVED, STORED AND RELOCATED TO ROOM C-6119. SEE SHEET 1-MP101 FOR MORE INFORMATION.
- 15 EXISTING HWS AND HWR PIPES TO REMAIN.
- DEMOLISH ABANDONED MEDIUM PRESSURE STEAM AND CONDENSATE RISERS COMPLETE TO THE BASEMENT LEVEL. CAP REMAINING PIPE. ALL RUNOUTS TO BE DEMOLISHED THROUGH THE WALL. SEE 2/1-MD102 FOR MORE INFORMATION.

SIXTH FLOOR KEY PLAN

100% SUBMITTAL **FULLY SPRINKLERED** 

SUBMISSIONS 65% DESIGN DEVELOPMENT

95% CONSTRUCTION DOCUMENTS

100% SUBMITTAL DOCUMENTS

BID DOCUMENTS

VA FORM 08-6231

one eighth inch = one root

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2-25-15 5-29-15 9-25-15

R. L. Roudebush VAMC 1481 West 10th Street Indianapolis, Indiana 46202 www.structurepoint.com

Apogee Project # 13-276

USFin Development, LLC 1105 West Weir Street Litchfield, IL 62056



EXPAND SPECIALTY

RCM

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09-25-15

V.A. 583-331 Building Number Drawing Number 1-MD102

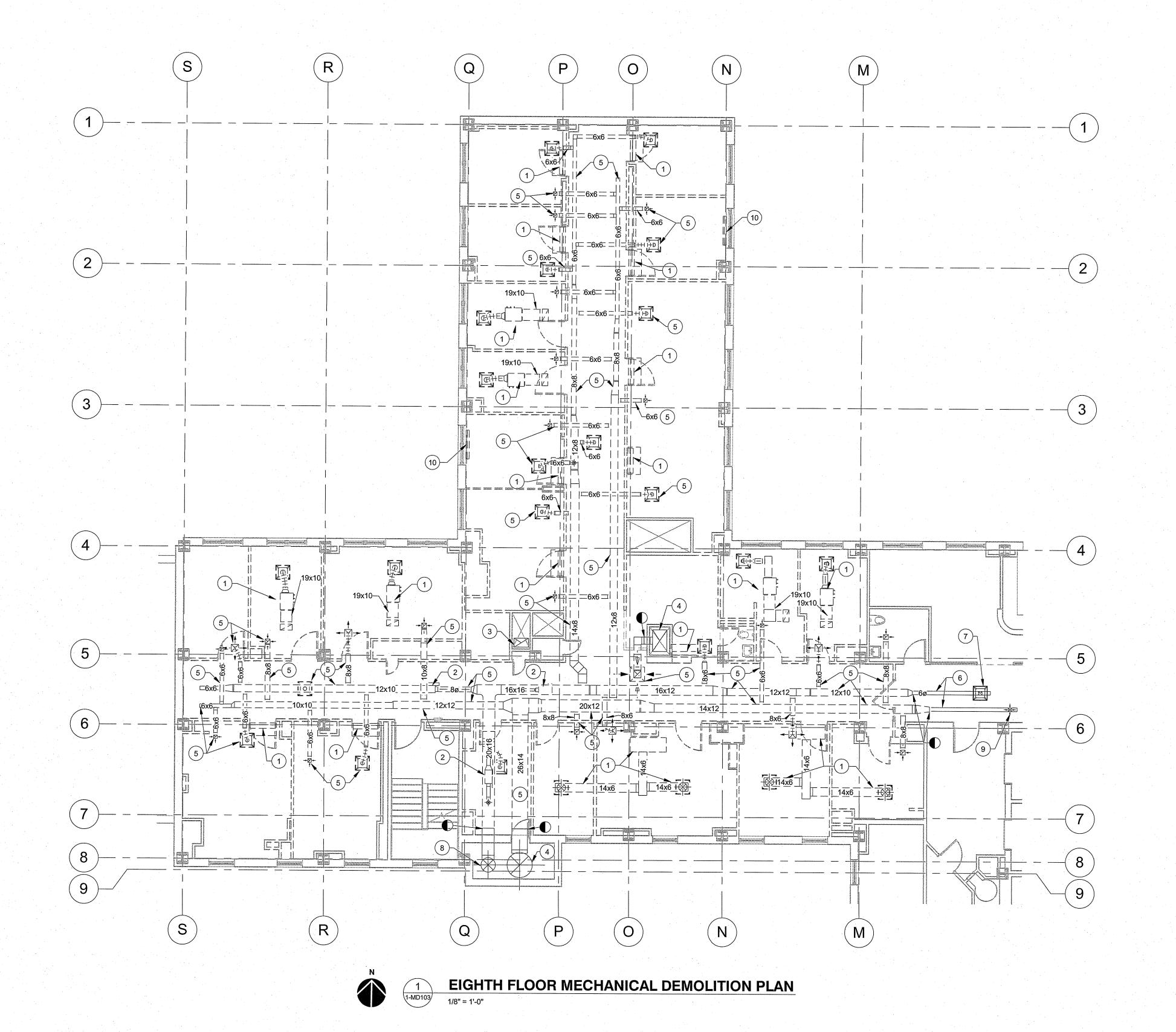
Project Number

11FY14

Office of Construction and Facilities Management



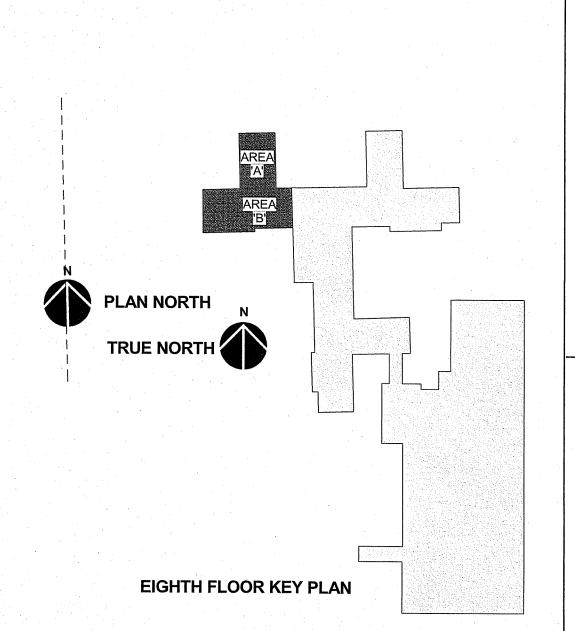
- A. ALL DUCTWORK, DIFFUSERS, GRILLES AND PIPING SHOWN ARE BASED ON SITE OBSERVATIONS AND EXISTING DOCUMENTATION. CONTRACTOR SHALL VERIFY IN A NONDESTRUCTIVE MANNER ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION INCULDING SIZES OF DUCTS AND PIPES TO BE REUSED.
- B. SEE ARCHITECTURAL PLANS FOR EXISTING CEILING WORK. CONTRACTOR SHALL REMOVE, STORE AND REPLACE CEILING TILES AND GRID AS NECESSARY TO PERFORM WORK.
- C. NOT ALL ITEMS ABOVE CEILING ARE SHOWN ON THIS PLAN, INCLUDING DOMESTIC WATER LINES, SANITARY AND VENT LINES, CABLING AND CONDUITS. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES.
- D. ALL OUTAGES TO BE APPROVED BY COR.
- E. SEE ARCHITECTURAL SHEETS FOR PHASING OF WORK.
- F. REFERENCE LIFE SAFETY PLANS FOR ALL FIRE AND SMOKE PARTITIONS, BARRIERS AND WALLS. MAINTAIN RATING OF ALL FIRE AND SMOKE PARTITIONS, BARRIERS AND WALLS.



SUPPORTS, CONDENSING UNIT, ACCESSORIES, ASSOCIATED DUCTWORK, AND DEMOLISH EXISTING VAV BOX AND ALL ASSOCIATED DUCTWORK, PIPING, GRILLES, DIFFUSERS, CONTROLS AND HANGERS COMPLETE. 3 EXISTING DUCT RISER TO REMAIN. 4 EXISTING EXHAUST RISER TO REMAIN. DEMOLISH EXISTING DUCTWORK, CEILING DIFFUSERS, LINEAR DIFFUSERS, HANGERS AND GRILLES COMPLETE BACK TO THE LIMIT OF DEMOLITION. 6 EXISTING DUCTWORK TO REMAIN. 7 EXISTING DIFFUSER TO REMAIN. 8 EXISTING SUPPLY RISER TO REMAIN. 9 EXISTING GRILLE TO REMAIN. 10 DEMOLISH EXISTING HEATER. SEE 1/1-MD102 FOR MORE INFORMATION.

NOTE

DEMOLISH EXISTING FAN COIL UNIT INCLUDING MOTORS, PIPING, HANGERS,



100% SUBMITTAL **FULLY SPRINKLERED** 

65% DESIGN DEVELOPMENT 1-23-15 95% CONSTRUCTION DOCUMENTS 2-25-15 5-29-15 100% SUBMITTAL DOCUMENTS 9-25-15

Date

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Revision #

SUBMISSIONS

BID DOCUMENTS

VA FORM 08-6231

Description

**United States Department of** Veterans Affairs R. L. Roudebush VAMC 1481 West 10th Street Indianapolis, Indiana 46202

ARCHITECT/ENGINEERS:

7260 SHADELAND STATION INDIANAPOLIS, IN 46256-3957 TEL 317.547.5580 FAX 317.543.0270 www.structurepoint.com

APOGEE

Pittsburgh, PA
Virginia Beach, VA
Fort Collins, CO
(919) 858-7420 Apogee Project # 13-276

Raleigh, NC Indianapolis, IN Philadelphia, PA

USFin Development, LLC 1105 West Weir Street Litchfield, IL 62056

CONSULTANTS

,	Drawing Title  EIGHTH FLOOR N  DEMOLITION PLA	
	Approved: Project Director	

Project Title ANICAL EXPAND SPECIALTY CARE R. L. Roudebush VAMC, Indianapolis, IN

09-25-15

Project Number V.A. 583-331 Office of Building Number Construction and Facilities Management 1-MD103

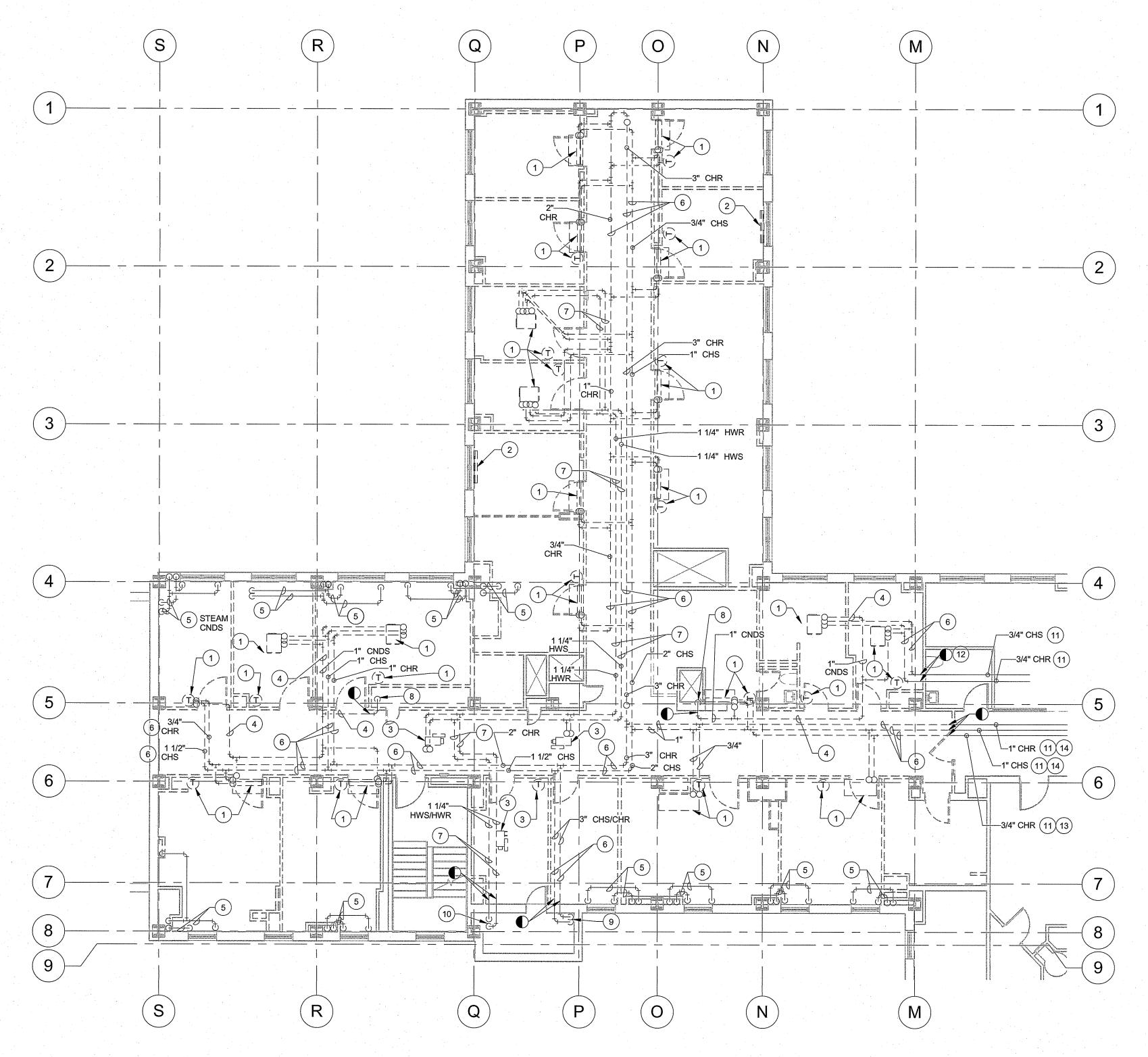
11FY14

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RCM

## MECHANICAL DEMOLITION GENERAL NOTES

- A. ALL DUCTWORK, DIFFUSERS, GRILLES AND PIPING SHOWN ARE BASED ON SITE OBSERVATIONS AND EXISTING DOCUMENTATION. CONTRACTOR SHALL VERIFY IN A NONDESTRUCTIVE MANNER ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION INCULDING SIZES OF DUCTS AND PIPES TO BE REUSED.
- B. SEE ARCHITECTURAL PLANS FOR EXISTING CEILING WORK. CONTRACTOR SHALL REMOVE, STORE AND REPLACE CEILING TILES AND GRID AS NECESSARY TO PERFORM WORK.
- C. NOT ALL ITEMS ABOVE CEILING ARE SHOWN ON THIS PLAN, INCLUDING DOMESTIC WATER LINES, SANITARY AND VENT LINES, CABLING AND CONDUITS. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES.
- D. ALL OUTAGES TO BE APPROVED BY COR.
- E. SEE ARCHITECTURAL SHEETS FOR PHASING OF WORK.
- F. REFERENCE LIFE SAFETY PLANS FOR ALL FIRE AND SMOKE PARTITIONS, BARRIERS AND WALLS. MAINTAIN RATING OF ALL FIRE AND SMOKE PARTITIONS, BARRIERS AND WALLS.



EIGHTH FLOOR MECHANICAL PIPING DEMOLITION PLAN

**EIGHTH FLOOR KEY PLAN** 

100% SUBMITTAL **FULLY SPRINKLERED** 

**REVISIONS** Revision # Description Date SUBMISSIONS 65% DESIGN DEVELOPMENT 1-23-15 2-25-15 95% CONSTRUCTION DOCUMENTS 100% SUBMITTAL DOCUMENTS 5-29-15 BID DOCUMENTS 9-25-15

VA FORM 08-6231

**United States Department of Veterans Affairs** R. L. Roudebush VAMC 1481 West 10th Street Indianapolis, Indiana 46202

O STRUCTUREPOINT INC. 7260 SHADELAND STATION
INDIANAPOLIS, IN 46256-3957
TEL 317.547.5580 FAX 317.543.0270
www.structurepoint.com

ARCHITECT/ENGINEERS:

Raleigh, NC Indianapolis, IN Philadelphia, PA APOGEE
Consulting Group
www.acg-pa.com
Pittsburgh, PA
Virginia Beach, VA
Fort Collins, CO
(919) 858-7420 Apogee Project # 13-276

CONSULTANTS

USFin Development, LLC 1105 West Weir Street Litchfield, IL 62056

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Drawing Title  EIGHTH FLOOR MECHANICAL PIPING DEMOLITION PLAN
Approved: Project Director
Approved. Project Director

CAL PIPING	Project Title  EXPAND SPECIALTY	Project Number V.A. 583-331
	CARE	Building Number  1
	R. L. Roudebush VAMC, Indianapolis, IN  Date   Checked   Drawn	Drawing Number 1-MD104

RCM

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09-25-15

KEY #

AND CONTROLS.

SEE 9/1-M-502 FOR MORE INFORMATION.

5 EXISTING STEAM AND CONDENSATE PIPING TO REMAIN.

8 EXISTING CONDENSATE RISER TO REMAIN.

9 EXISTING 5" CHS AND CHR RISERS TO REMAIN.

10 EXISTING 3" HWS AND HWR RISERS TO REMAIN.

11 EXISTING CHS AND CHR PIPES TO REMAIN.

3 DEMOLISH EXISTING VAV BOX, PIPING AND CONTROLS COMPLETE.

NOTE

HANGERS, SUPPORTS, CONDENSING UNIT, ACCESSORIES, ASSOCIATED DUCTWORK,

DEMOLISH EXISTING STEAM RADIATOR COMPLETE. CAP STEAM PIPING AT FLOOR.

DEMOLISH EXISTING SUSPENDED FAN COIL UNIT INCLUDING MOTORS, PIPING,

4 DEMOLISH EXISTING CONDENSATE DRAIN PIPING BACK TO MAIN RISER AND CAP.

6 DEMOLISH EXISTING CHS AND CHR PIPING BACK TO THE LIMIT OF DEMOLITION.

7 DEMOLISH EXISTING HWS AND HWR PIPING BACK TO THE LIMIT OF DEMOLITION.

DEMOLISH EXISTING CHS AND CHR PIPING BACK TO THE LIMIT OF DEMOLITION AND

13 DEMOLISH EXISTING CHR PIPE BACK TO THE LIMIT OF DEMOLITION AND CAP.

DEMOLISH EXISTING CHS AND CHR PIPING BACK TO THE LIMIT OF DEMOLITION.
VALVE AND CAP AND PREPARE FOR NEW CONNECTION.

Office of Construction and Facilities Management

USFin Development, LLC 1105 West Weir Street Litchfield, IL 62056

Apogee Project # 13-276

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1481 West 10th Street

Indianapolis, Indiana 46202

MECHANICAL DEMOLITION GENERAL NOTES

NOTE

1 DEMOLISH EXISTING HWS AND HWR PIPING AND ALL ASSOCIATED FITTINGS AND

**ROOF KEY PLAN** 

V.A. 583-331

1-MD105

11FY14

Drawing Number

R. L. Roudebush VAMC, Indianapolis, IN

09-25-15

Checked

RCM

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100% SUBMITTAL

FULLY SPRINKLERED

Office of

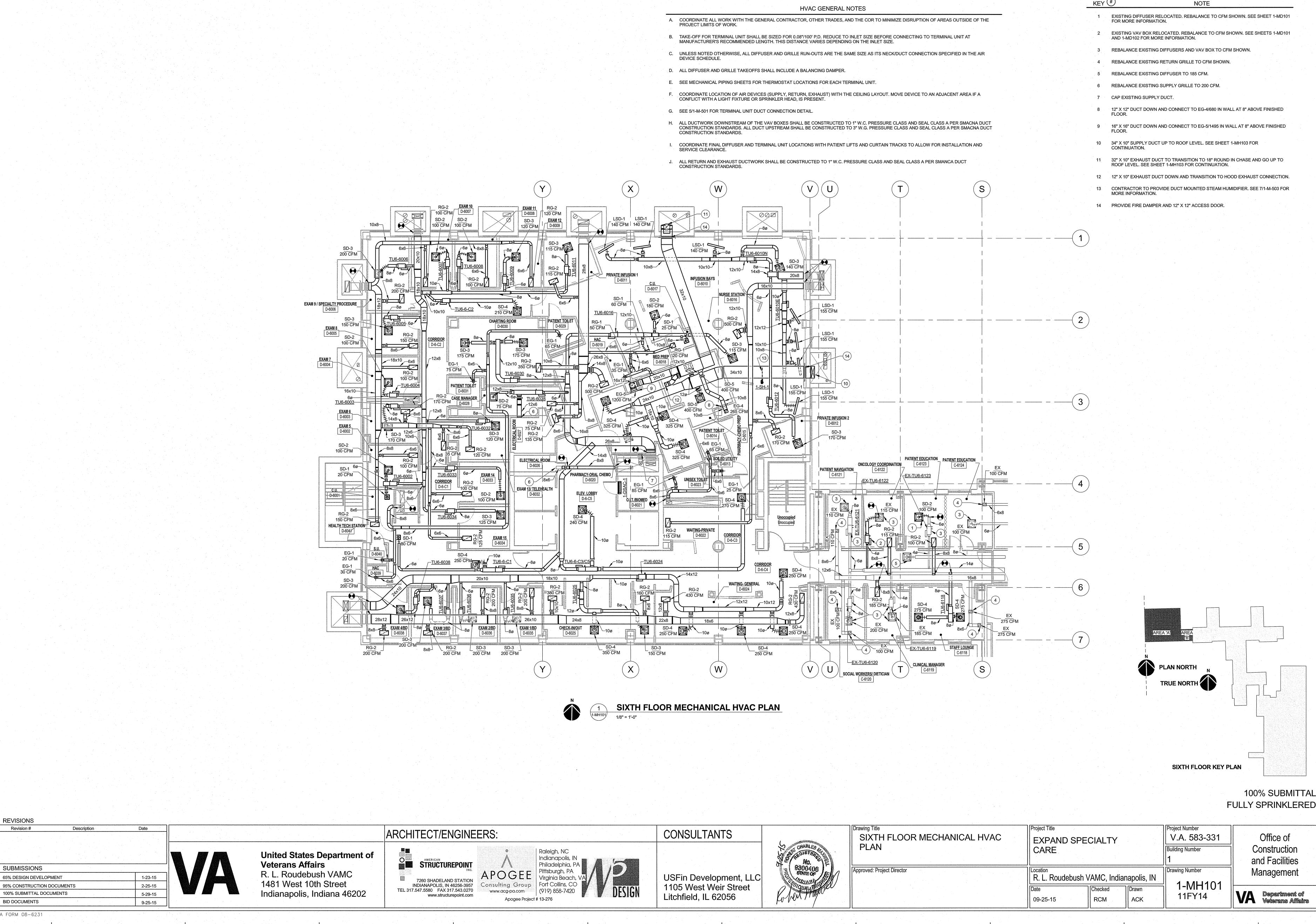
Construction

and Facilities

Management

VA Department of Veterans Affairs

A. ALL DUCTWORK, DIFFUSERS, GRILLES AND PIPING SHOWN ARE BASED ON SITE OBSERVATIONS AND EXISTING DOCUMENTATION. CONTRACTOR SHALL VERIFY IN A NONDESTRUCTIVE MANNER ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION INCULDING SIZES OF DUCTS AND PIPES TO BE REUSED.



REVISIONS Revision#

**BID DOCUMENTS** 

VA FORM 08-6231

KEY #

**FULLY SPRINKLERED** 

09-25-15

**EIGHTH FLOOR KEY PLAN** 

11FY14

RECONNECT TO EXISTING DUCTWORK AND REBALANCE DIFFUSER AND GRILLE TO

PREVIOUS CFM.

100% SUBMITTAL FULLY SPRINKLERED

1-23-15 2-25-15 5-29-15

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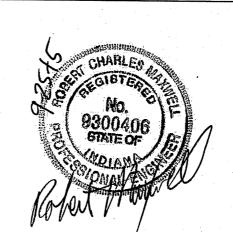
ARCHITECT/ENGINEERS: O STRUCTUREPOINT INC.

Raleigh, NC Indianapolis, IN Philadelphia, PA APOGEE | Pittsburgh, PA | Virginia Beach, VA | 7260 SHADELAND STATION INDIANAPOLIS, IN 46256-3957 TEL 317.547.5580 FAX 317.543.0270 www.structurepoint.com Apogee Project # 13-276

USFin Development, LLC 1105 West Weir Street Litchfield, IL 62056

CONSULTANTS

EIGHTH FLOOR MECHANICAL HVAC PLAN



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EIGHTH	FLOOR	MECHA	ANICAL	HVA(	<b>D</b>
PLAN					

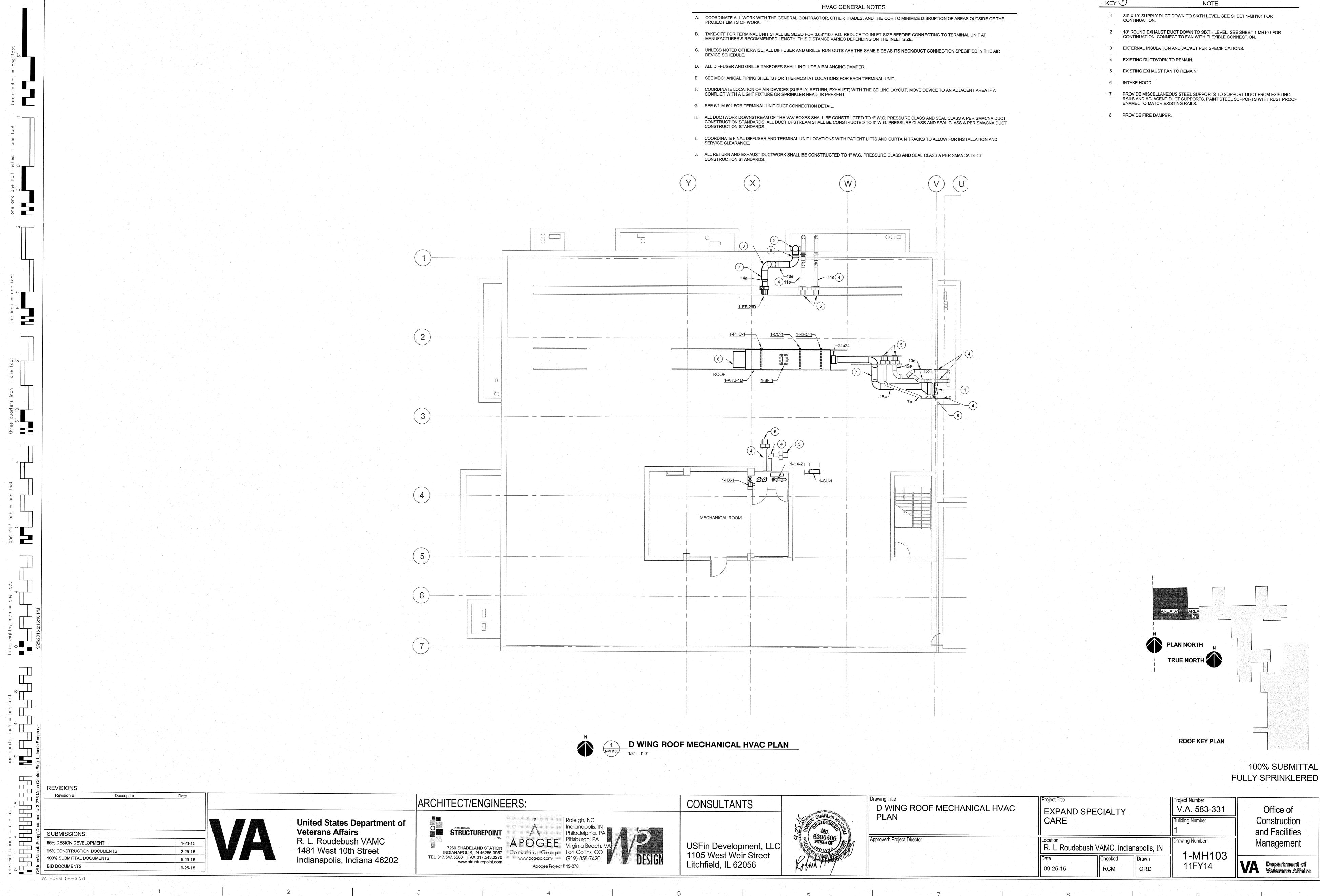
Approved: Project Director

Project Title Project Number V.A. 583-331 EXPAND SPECIALTY CARE R. L. Roudebush VAMC, Indianapolis, IN 1-MH102 Checked

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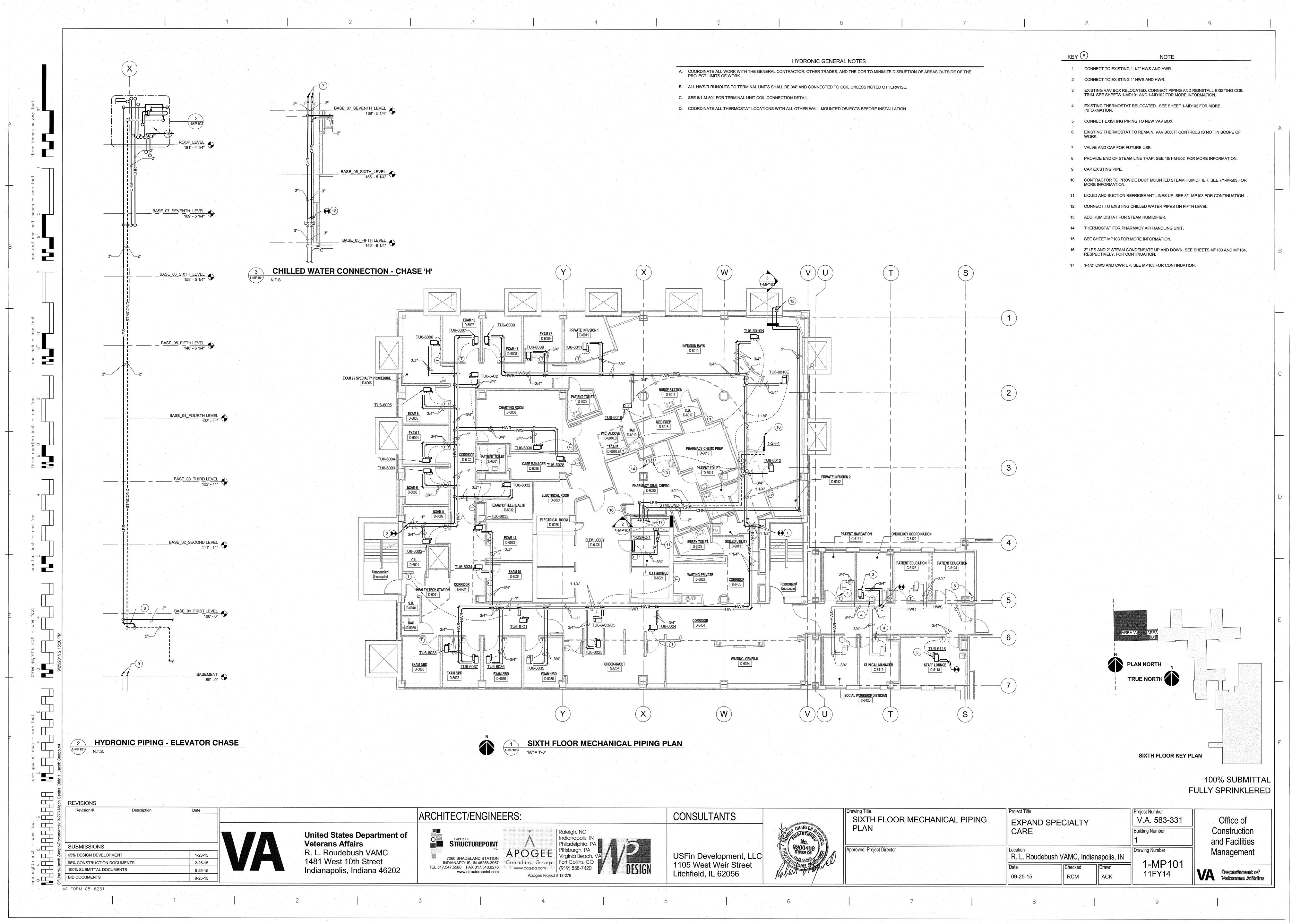
RCM

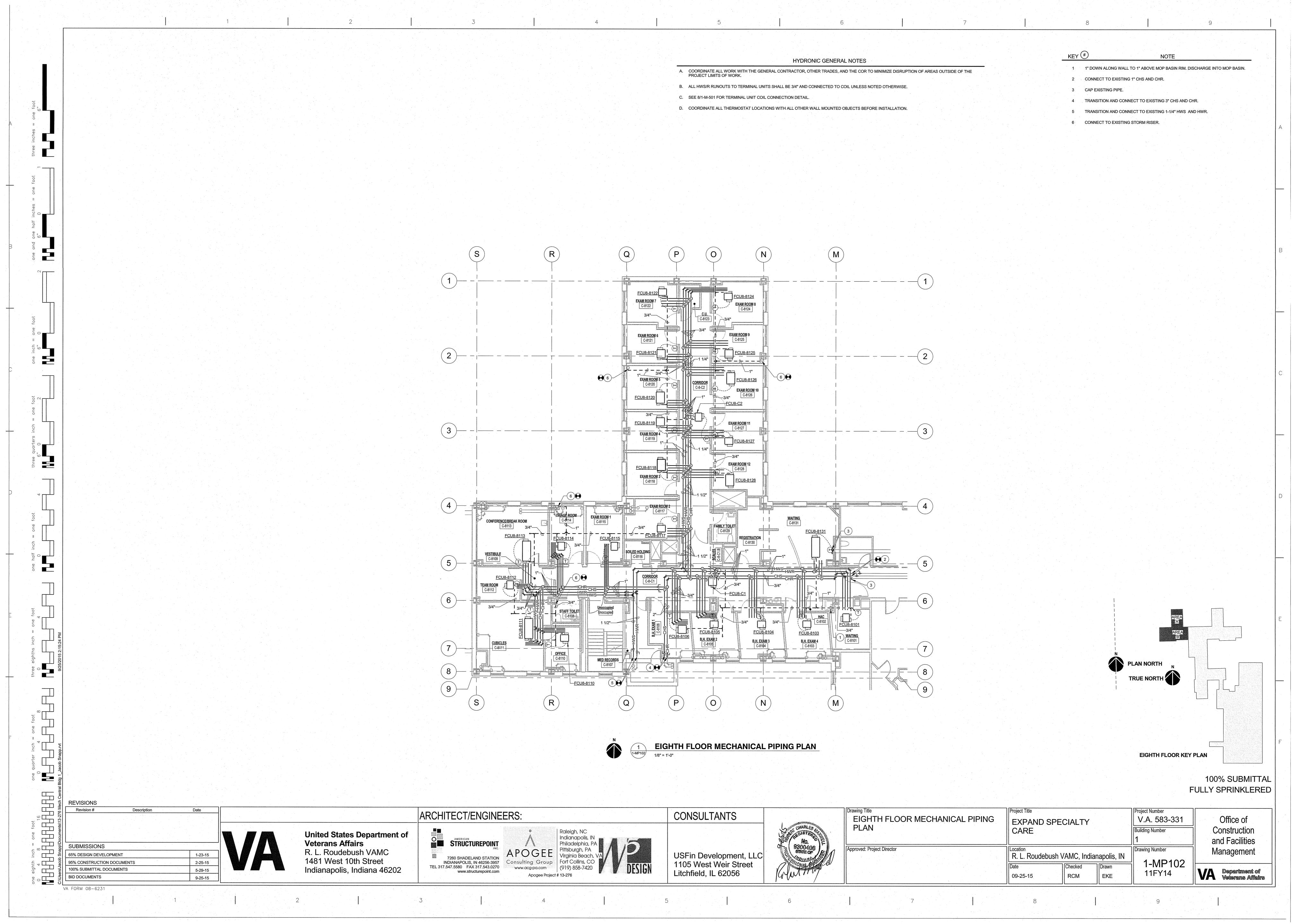
Office of Construction and Facilities Management

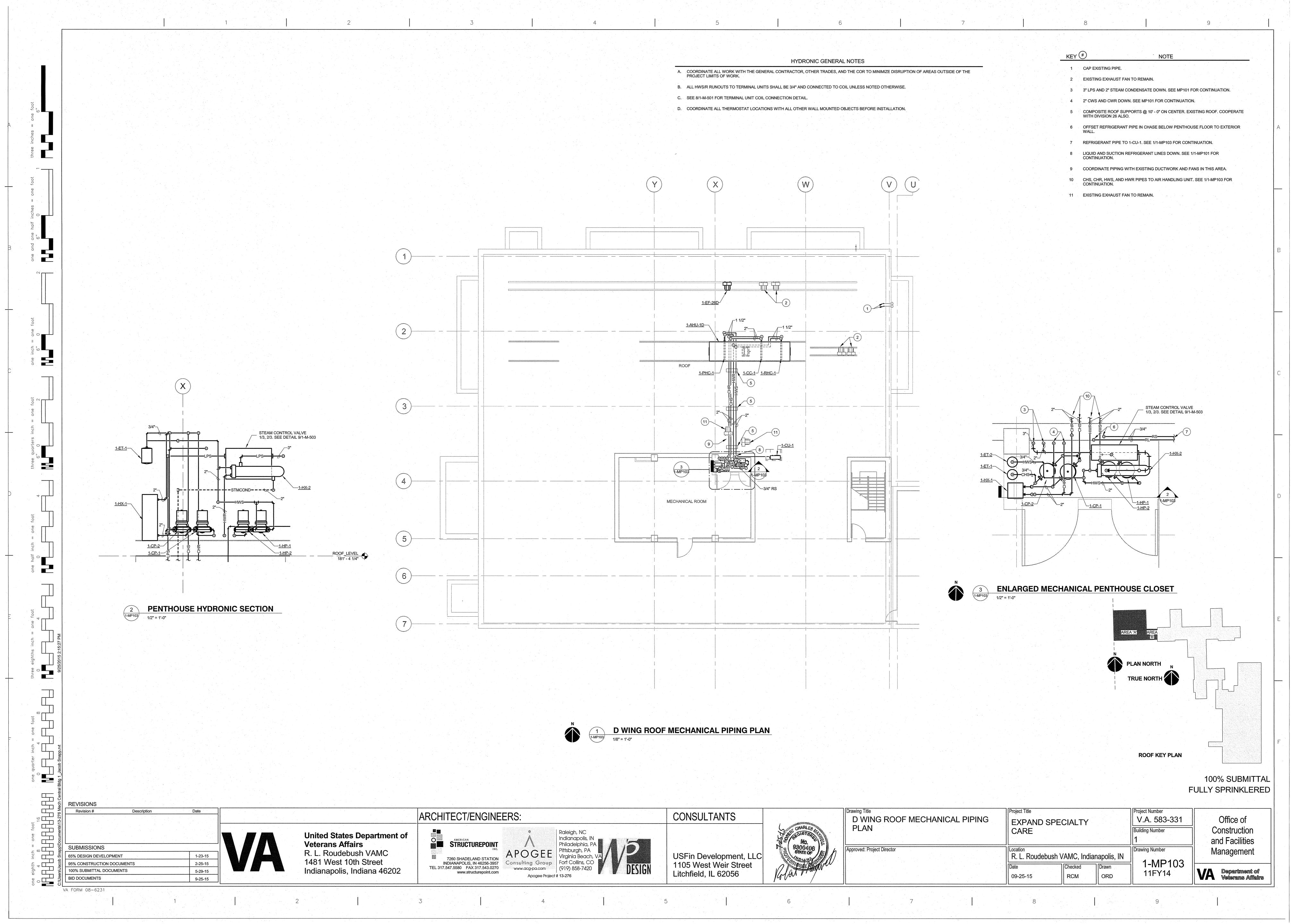


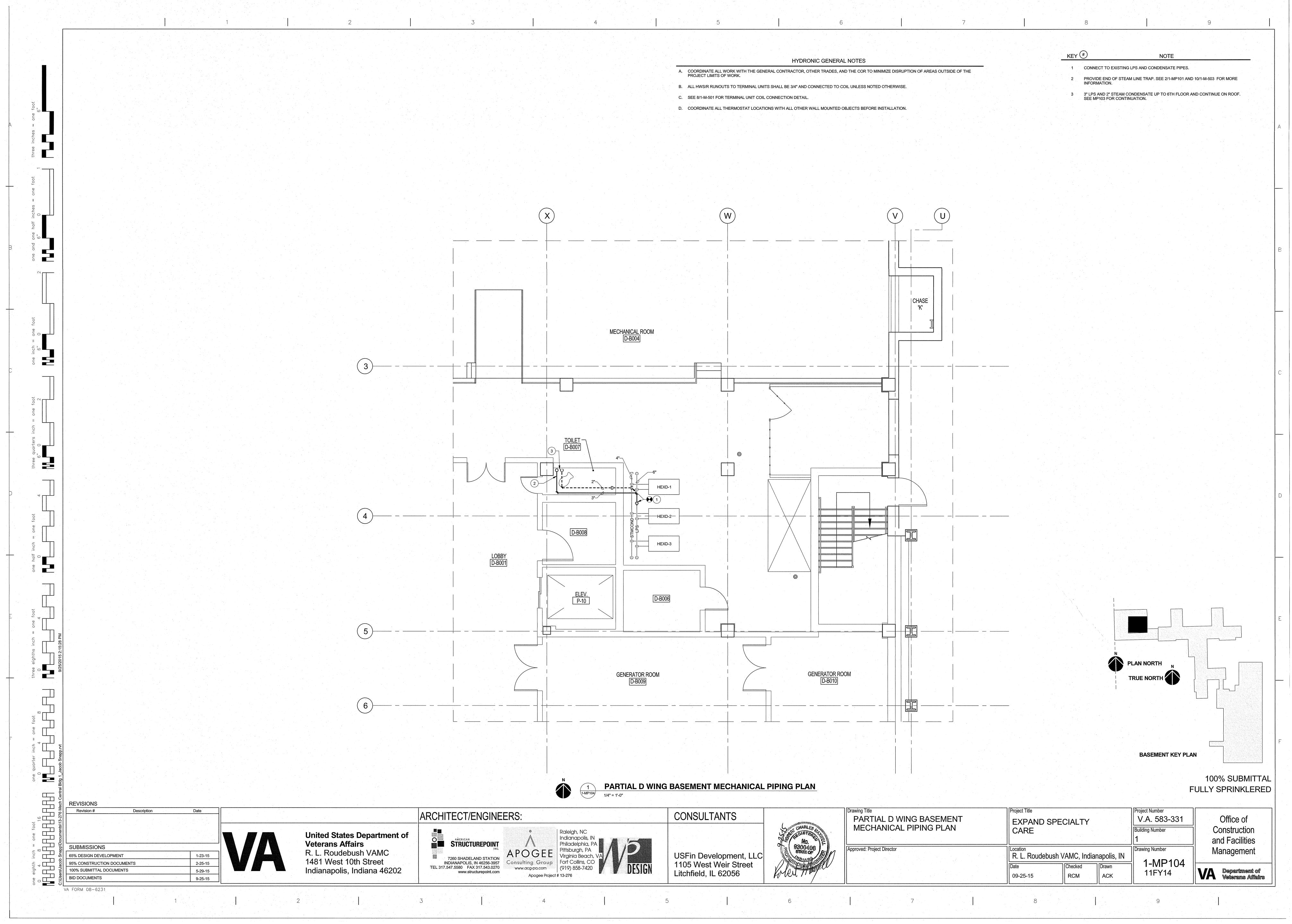
KEY #

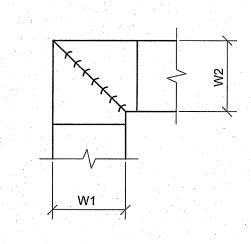
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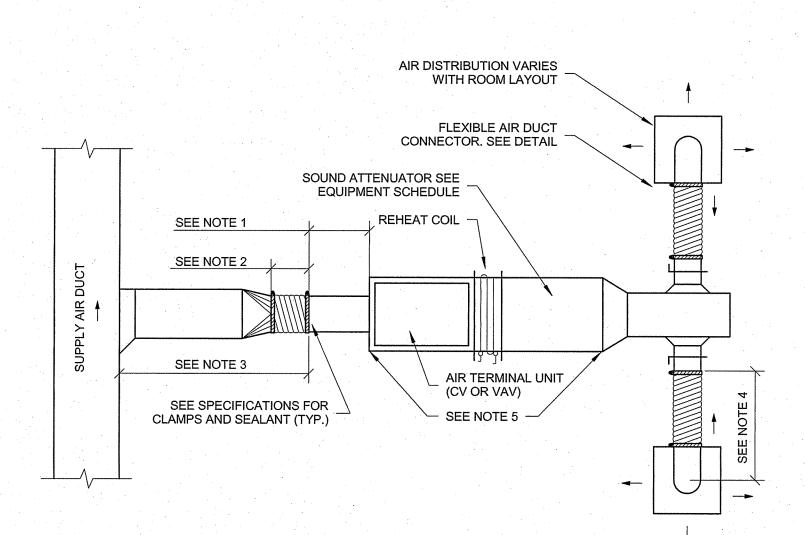






- ALL VANE ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY
- WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE THICKNESS VANE TYPE REGARDLESS OF W DIMENSION.
- ALL SINGLE THICKNESS VANES SHALL HAVE A 2" RADIUS, 1-1/2" MAXIMUM SPACE BETWEEN VANES AND A 3/4" TRAILING EDGE.
- WHEN W EQUAL W2 AND W1 IS GREATER THAN 20" VANES SHALL BE DOUBLE

# **DUCTWORK SQUARE VANE ELBOWS**

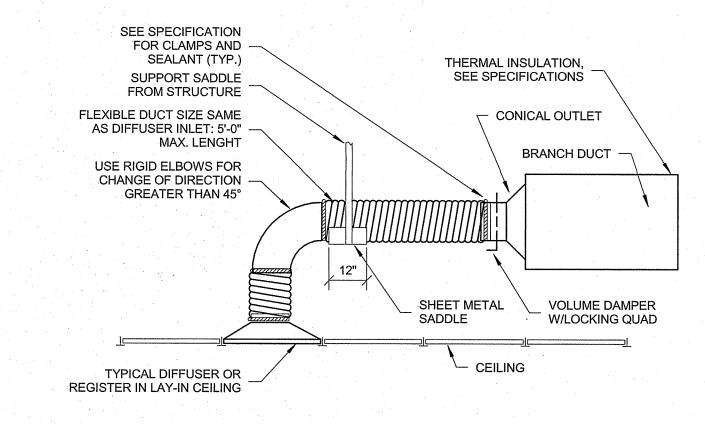


- RIGID STRAIGHT TERMINAL UNIT INLET LENGTH SHALL BE A MINIMUM OF 3 TIMES THE DIAMETER OF INLET.
- A FLEXIBLE AIR DUCT CONNECTOR IS NOT MANDATORY FOR INLET TO THIS BOX, BUT ALLOWED TO ACCOMODATE MINOR OFFSETS. MAXIMUM LENGTH 3'-0".
- A BRANCH DUCT SERVING AN INDIVIDUAL BOX MAY BE THE SAME SIZE AS THE BOX INLET, PROVIDED THE EQUIVALENT LENGTH OF THE BRANCH DUCT, AS SHOWN, DOES NOT EXCEED 10 FEET. FOR LONGER LENGTHS, INCREASE THE DUCT SIZE AND PROVIDE A DUCT TRANSITION TO MAINTAIN THE DUCT STATIC PRESSURE DROP AT OR BELOW 0.2"/100'.
- FLEXIBLE AIR DUCT CONNECTORS, WHEN USED FROM TERMINAL UNIT SUPPLY AIR DUCT TO DIFFUSER, SHALL NOT EXCEED 5'-0". USE

RIGID ELBOWS FOR CHANGE OF DIRECTION GREATER THAN 45°.

COMPONENT ARRANGEMENT MAY VARY BY MANUFACTURER. PROVIDE INSULATION W/VAPOR BARRIER FOR CONNECTING DUCT

# **DUCT CONNECTIONS - AIR TERMINAL UNITS**

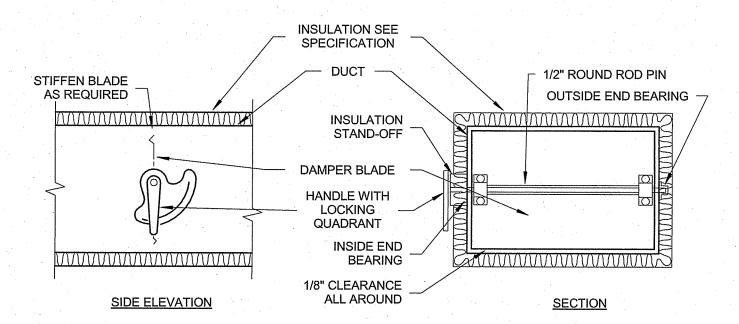


NOTE: WHEN MOUNTED IN A GYPSUM BOARD CEILING PROVIDE, MANUFACTURERS SUFACE MOUNT TRIM FRAME.



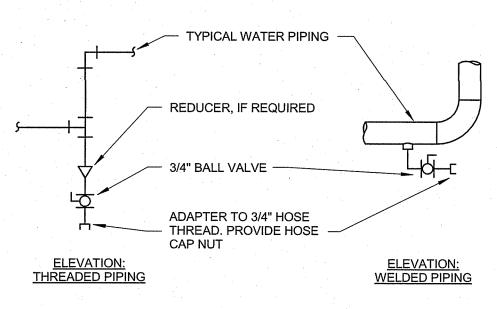
5-29-15

9-25-15



DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTENAL INSULATION. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.

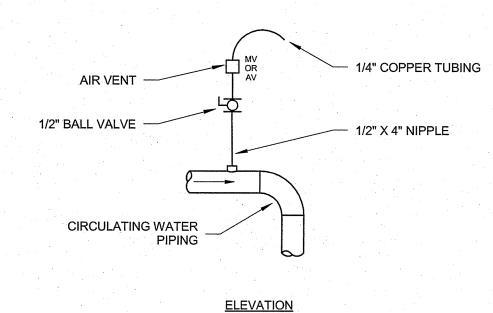
# **VOLUME DAMPER DETAIL**



### TYPICAL CHILLED WATER AND HOT WATER PIPING DRAIN VALVE CONNECTIONS

# DRAIN ALL LOW POINTS AS INDICATED ABOVE.

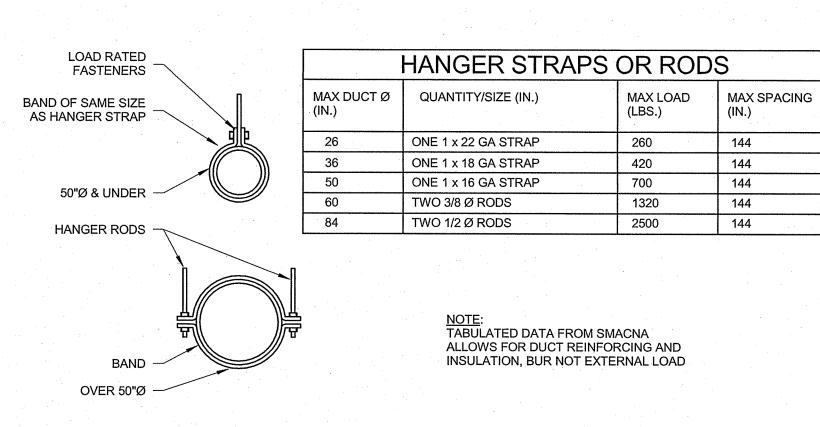
WHERE SCALE POCKETS ARE SHOWN ON PIPE RISER DIAGRAMS AND/OR PLANS, LOCATE DRAIN AT BOTTOM OF SCALE POCKET.



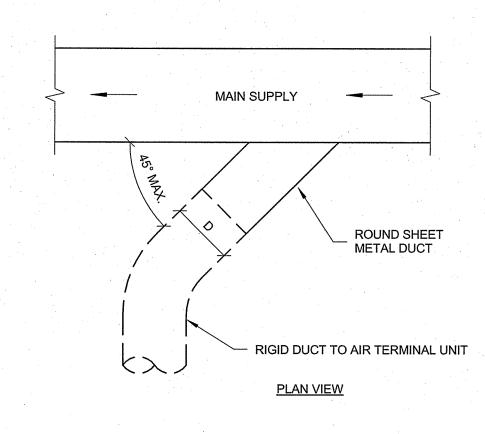
TYPICAL MANUAL AIR VENT

VENT ALL HIGH POINTS INDICATED ABOVE. IF AUTOMATIC AIR VENTS ARE USED, PIPE DISCHARGE TO DRAIN.

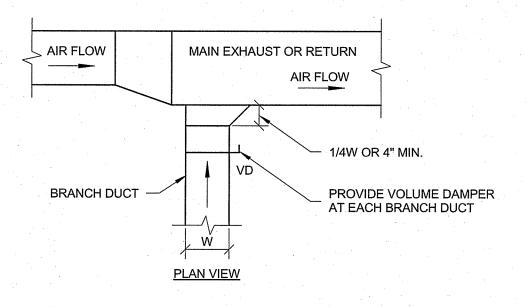
# DRAIN VALVE AND AIR VENT CONNECTIONS (HYDRONIC SYSTEMS)



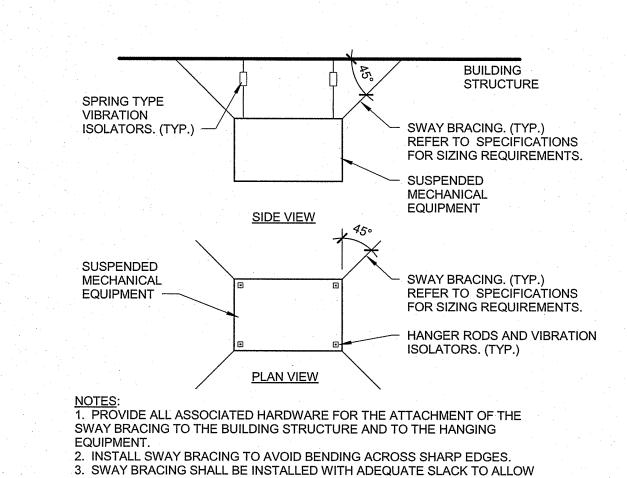
**ROUND DUCT HANGERS** 



**SUPPLY DUCT TAKEOFF - AIR TERMINAL UNITS** 

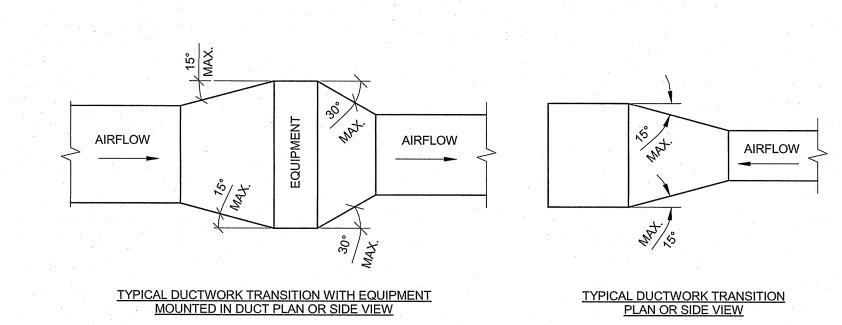


**EXHAUST OR RETURN BRANCH DUCTWORK** 



SUSPENDED EQUIPMENT SUPPORT DETAIL

VIBRATION ISOLATION TO FUNCTION PROPERLY



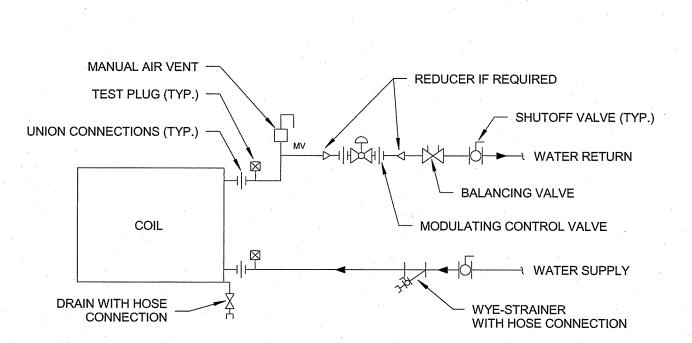
UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

## **DUCTWORK TRANSITIONS (WITH EQUIPMENT MOUNTED IN** DUCT)

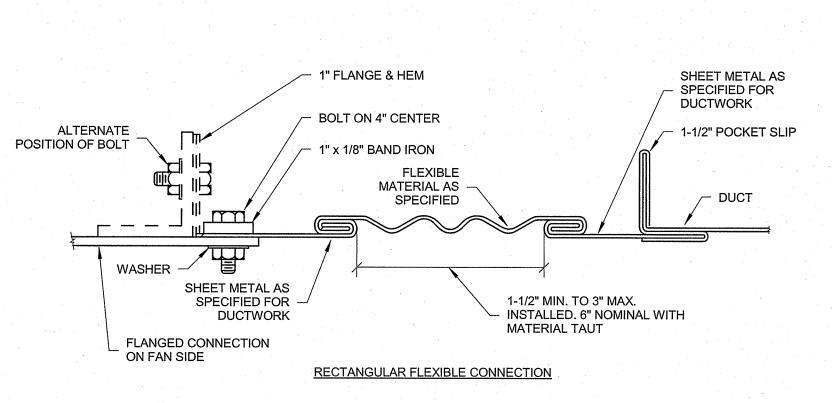
SHALL EQUAL OR BE GREATER **BE GREATER** BE GREATER THAN W. **THAN 1/3 W** STANDARD RADIUS OF LONG RADIUS ELBOW SHORT RADIUS ELBOW WITH TWO VANES

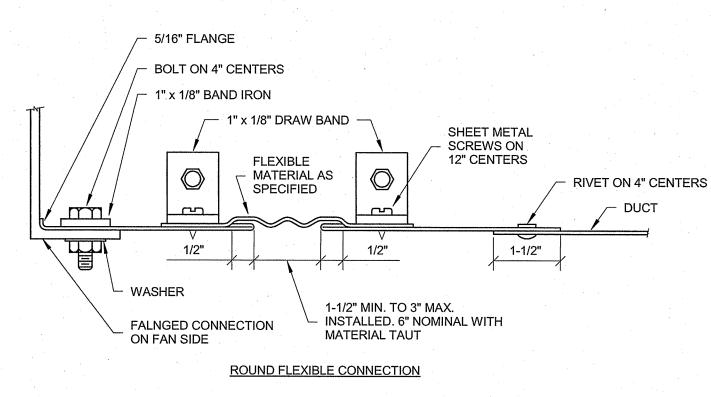
1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND. ALL STANDARD ELBOWS CAN BE SUBSTITUTED WITH SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

**DUCTWORK RADIUS ELBOW** 



TERMINAL UNIT WATER COILS - PIPING CONNECTIONS





**FLEXIBLE DUCT CONNECTIONS** 

100% SUBMITTAL **FULLY SPRINKLERED** 

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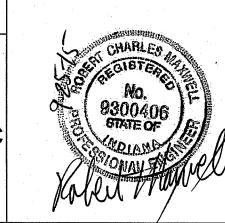


ARCHITECT/ENGINEERS: Apogee Project # 13-276



USFin Development, LLC 1105 West Weir Street Litchfield, IL 62056

CONSULTANTS



MECHANICAL DI
Approved: Project Director

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pproved: Project Director			

Project Title EXPAND SPECIALTY Location R. L. Roudebush VAMC, Indianapolis, IN

09-25-15

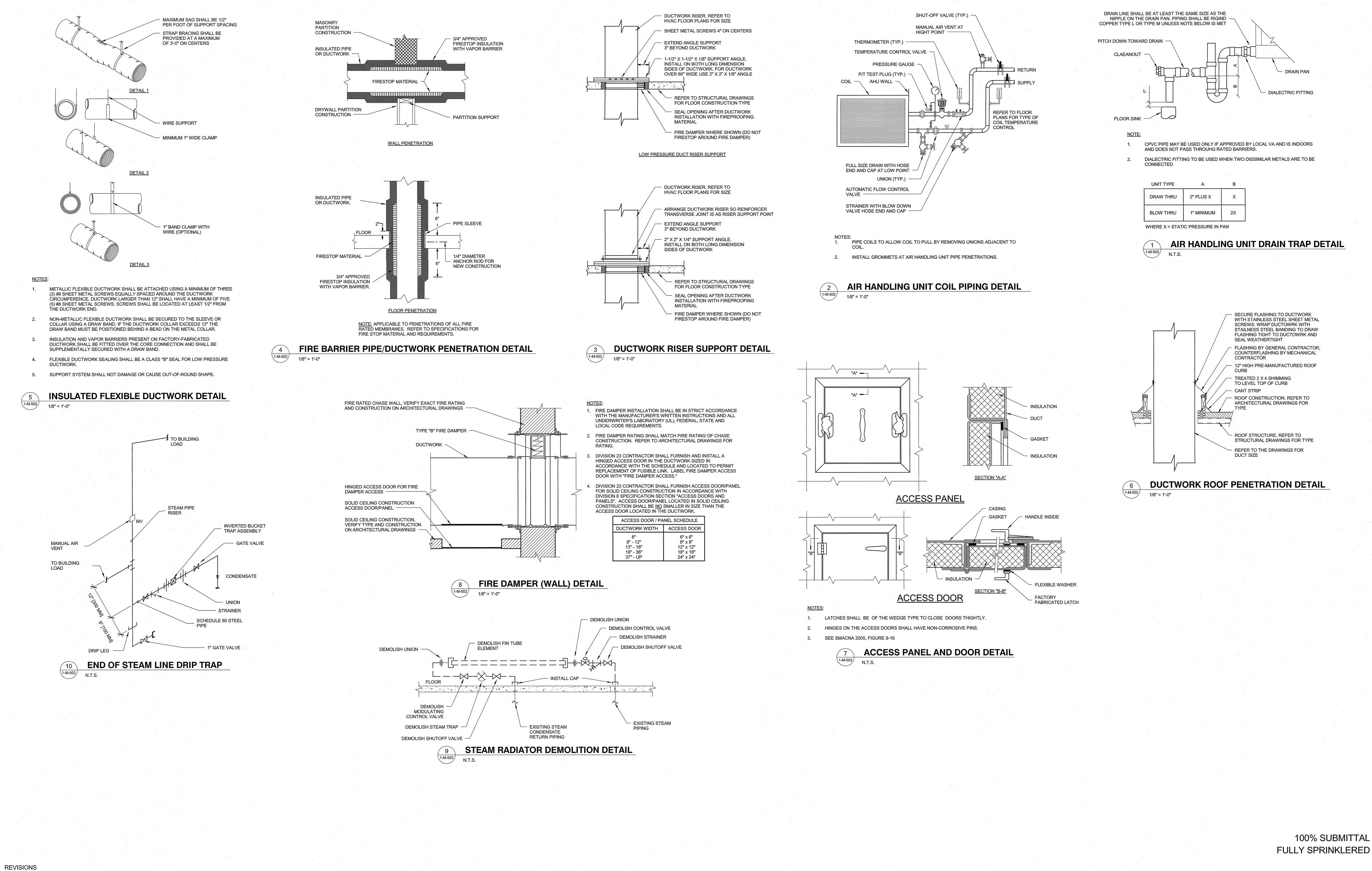
RCM

V.A. 583-331 1-M-501 11FY14 ACK

and Facilities Management

Office of

Construction



Office of Construction and Facilities Management 1-M-502 VA Department of Veterans Affairs

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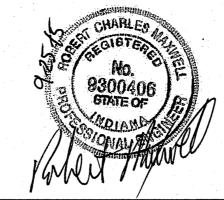
7260 SHADELAND STATION
INDIANAPOLIS, IN 46256-3957
Consulting Group
www.acg-pa.com TEL 317.547.5580 FAX 317.543.0270 www.structurepoint.com

ARCHITECT/ENGINEERS:

Raleigh, NC Indianapolis, IN Philadelphia, PA Pittsburgh, PA Virginia Beach, VA Fort Collins, CO (919) 858-7420 Apogee Project # 13-276

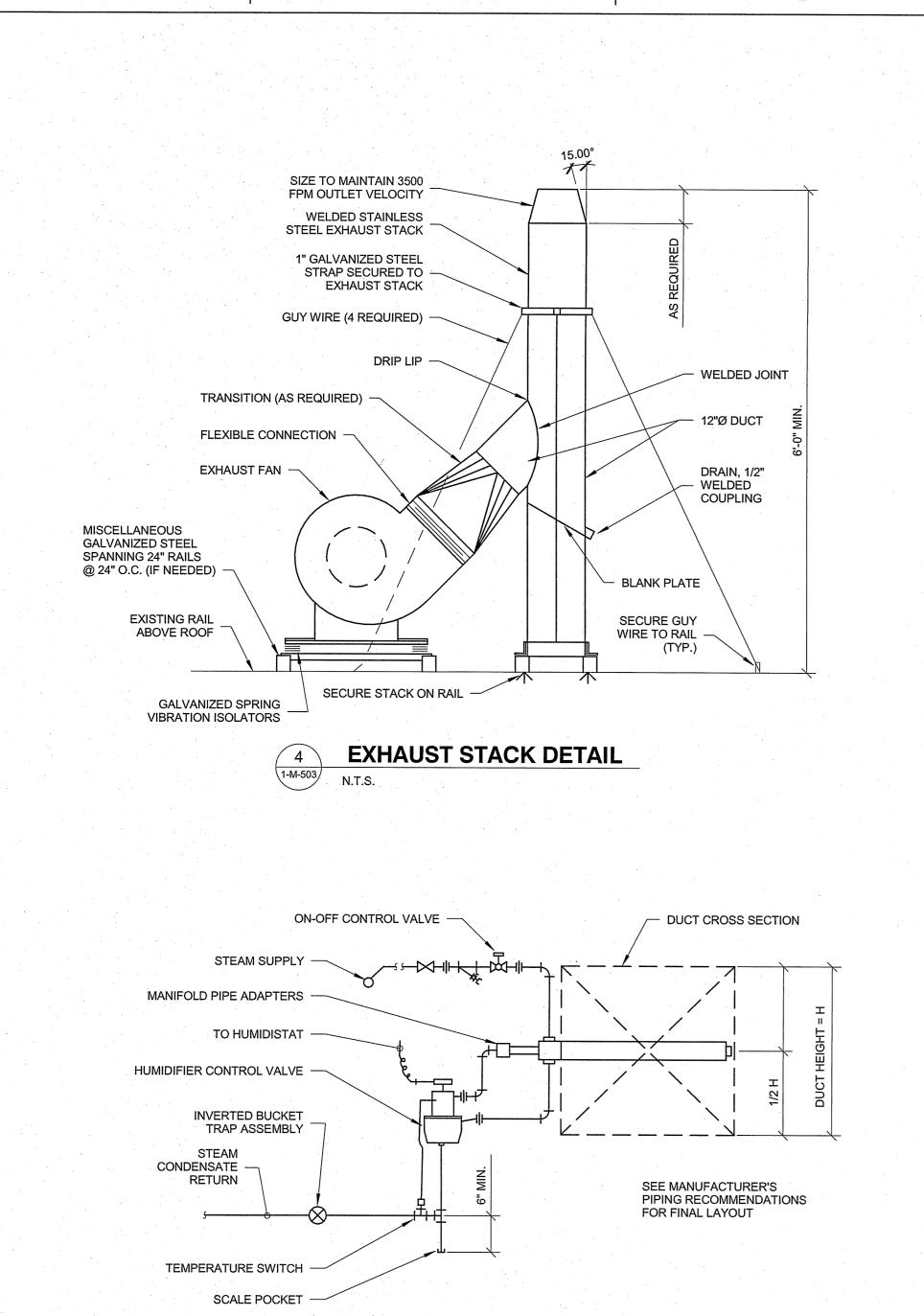
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CONSULTANTS

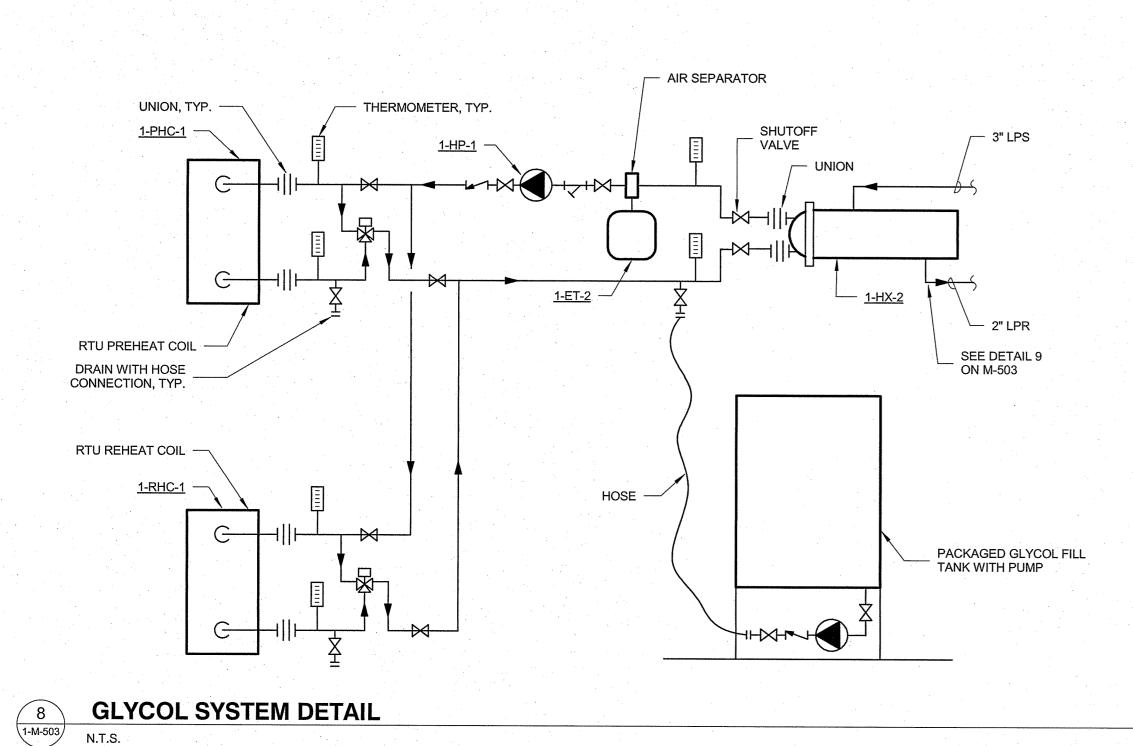


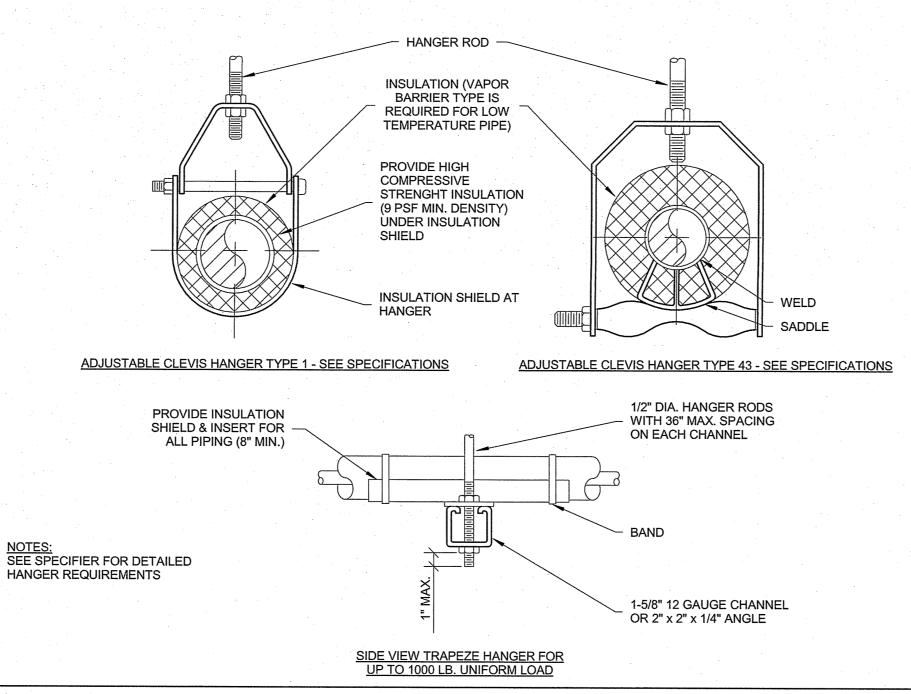
MECHANICAL DETAILS CARE Approved: Project Director

V.A. 583-331 EXPAND SPECIALTY Building Number Drawing Number R. L. Roudebush VAMC, Indianapolis, IN 11FY14 09-25-15 RCM ACK





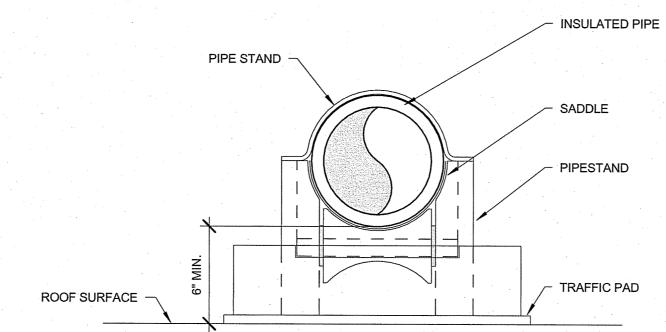




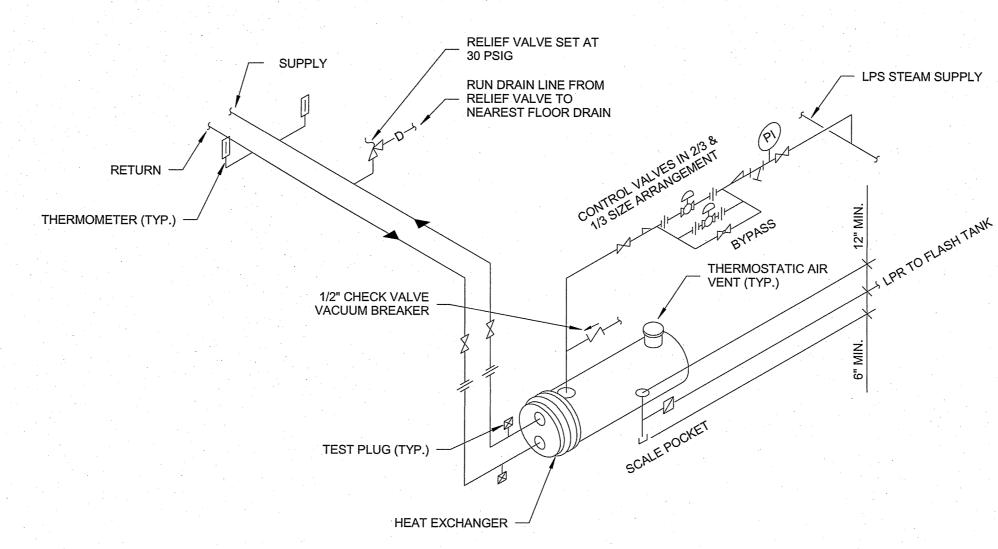
						UP TO	1000 LB	. UNIFO	RM LOA	<u>\D</u>								
		-		-	MAXIM	UM PIPE	/TUBIN	G SUPP	ORT SF	PACING	-				-			
NOM. SIZE (IN.)	THRU 3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
PIPE (FT.)	7	7	7	9	.10	.11	12	14	16	17	19	22	23	25	27	28	30	32
TUBING (FT.)	5 FT	6	7	8	8	9	10	12	13	14	16	-	-	-	-	-	-	-
NOTE: FOR TI	RAPEZE HANGI	ER TAKE	E SPACI	NG OF S	SMALLE	ST SIZE	ON TR	APEZE	1				I			L		

PIPE HANGERS

PIPE STAND - SADDLE



**ROOFTOP PIPESTAND DETAIL** 



PLAN NOTES:

1. PIPESTAND MIRO MODEL NO. 3-R WITH ROLLER.

AND BOTTOM OF PIPE INSULATION.

AT ALL PIPESTANDS.

PROVIDE SADDLE UNDER INSULATED PIPE.

INSTALL PIPE STRAP USING #10 STAINLESS STEEL

SCREWS PER UNIT MFR RECOMMENDATION. PROVIDE

LOOSE INSTALLATION TO PROVIDE FREE MOVEMENT.

SPACE PIPESTANDS TO OBTAIN A MAX. LOAD WEIGHT

OF 100 LBS. PER PIPE STAND. MAX. SPACING SHALL BE 10"

INSTALL MIRO MODEL NO. 3-R SPACERS AS REQUIRED TO

PROVIDE MIN. 6" CLEARANCE BETWEEN ROOF SURFACE

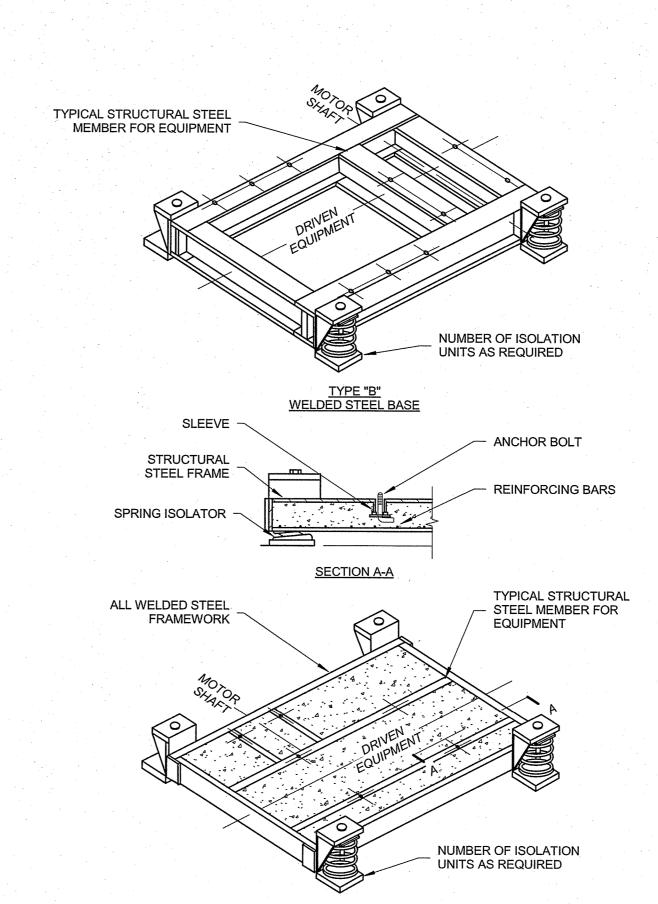
INSTALL TRAFFIC PAD OR MIRO DECK PLATE BELOW EACH PIPESTAND TO ACHIEVE EVEN LOAD WEIGHT

PROVIDE SADDLE SUPPORTS AND LEGS OR HANGERS FOR HEAT EXCHANGER. MOUNTING HEIGHT TO SHALL BE ADJUSTED TO FACILITATE GRAVITY RETURN OR STEAM CONDENSATE MAKE THE BYPASS THE SAME SIZE AS THE CONNECTIONS TO THE CONTROL VALVES.

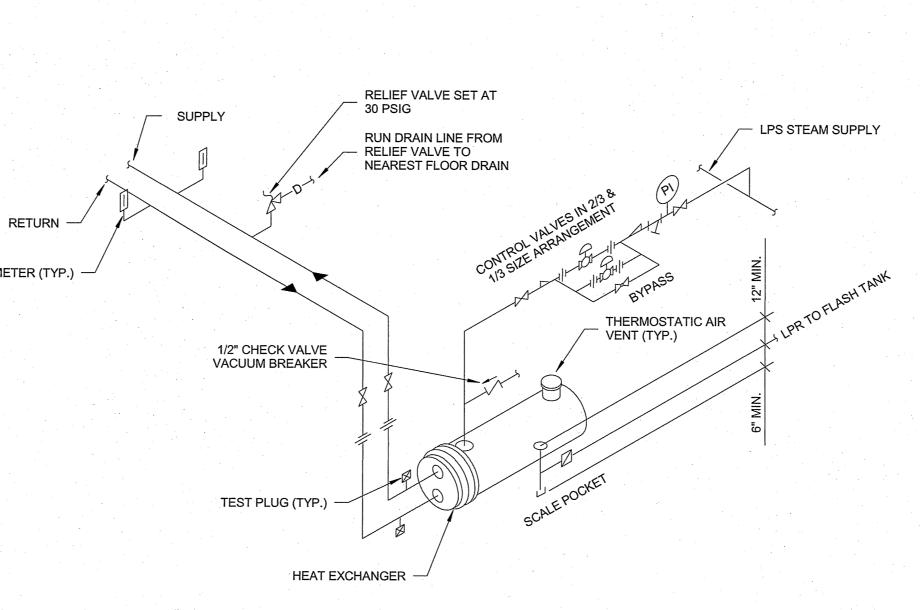
CONTROL VALVES SHALL BE IN A 1/3 AND 2/3 SIZE ARRANGEMENT.

9 HEAT EXCHANGER - STEAM TO HOT WATER

1-M-503 N.T.S.



TYPE "1"
CONCRETE INERTIA BASE **VIBRATION ISOLATION BASES** 



POCKET BELOW TRAPINLET. PROVIDE BYPASS PIPING.

ANCHOR ROOFTOP EQUIPMENT TO

CONTINUOUS UNDER ROOFTOP

RUBBER-IN-SHEAR VIBRATION ISOLATION

FACTORY PREFABRICATED EQUIPMENT

FIELD APPLIED CANT STRIP (TYP. OF 2)

ROOF CONSTRUCTION.

DRAWINGS FOR TYPE

ROOF STRUCTURE. REFER TO STRUCTURAL

SECURE TO STRUCTURE

OPTIONAL WOOD NAILER

20 GUAGE GALVANIZED SHEET

TREATED 2 X 12 AROUND ALL

4 SIDES OF PLATFORM -

FIELD APPLIED

TREATED 2 X 4

TOP OF CURB -

SHIMMING TO LEVEL

3/4" TREATED PLYWOOD -

BYPASS-INSTALL IN HORIZONTAL PLANE LEVEL WITH RAP OR IN

PIPE SIZE SHALL BE THE

SEE DRAWINGS FOR PIPE SIZES

SAME SIZE AS TRAP

TO RETURN MAIN -

VERTICAL PLANE & BELOW TRAP -

FABRICATED LEVELING DEVICES.

CANT STRIP -

METAL COVER OVER PLYWOOD -

DRAWINGS FOR TYPE

REFER TO ARCHITECTURAL

COUNTERFLASHING

EQUIPMENT SUPPORTS SHALL BE PROVIDED WITH PROPERLY DESIGNED

ROOF CURBS SHALL NOT BE SUPPORTED FROM THE ROOF INSULATION.

**ROOF EQUIPMENT SUPPORT DETAIL** 

ROOF PLATFORMS SHALL BE PROVIDED WITH PROPERLY DESIGNED

DRIP LEG OR EQUIPMENT CONNECTION. MAKE THE

SAME SIZE AS THE SUPPLY MAIN OR EQUIPMENT CONNECTINO. SEE NOTE 1

ROOF CURBS SHALL NOT BE SUPPORTED FROM THE ROOF INSULATION. ROOFING INSULATION SHALL BE CONTINUOUS UNDER THE PLATFORM.

**ROOF PLATFORM DETAIL** 

PROVIDE PERIMETER ANGLE SUPPORT AT ALL SIDES BETWEEN STRUCTURAL STEEL SIZE OF ANGLE BASED ON LOAD OF EQUIPMENT. MINIMUM SIZE SHALL BE

COORDINATE LOCATION OF ROOF CURB AND ROOF OPENING WITH STRUCTURE.

ROOFING INSULATION SHALL BE CONTINUOUS UNDER THE ROOFTOP EQUIPMENT

INSTALLED TO MATCH ROOF SLOPE.

FABRICATED LEVELING DEVICES SO EQUIPMENT IS LEVEL AND THE ROOF CURB IS

WOOD NAILER

- TREATED 2 X 8 AT

- COUNTERFLASHING

FLASHING BY ROOFING

CONTRACTOR

BY MECHANICAL

CONTRACTOR

- ROOF CONSTRUCTION.

DRAWINGS FOR TYPE

INVERTED BUCKET TRAP. SEE PLANES

AND SCHEDULES

- DIELECTRIC FITTING WHERE RETURN IS

REFER TO ARCHITECTURAL

- ROOF STRUCTURE. REFER

TO STRUCTURAL DRAWINGS

12" ON CENTER

SUPPORT -

EQUIPMENT -

SUPPORT

**INVERTED BUCKET STEAM TRAP ASSEMBLY** 

ALL DRIP POINTS ON STEAM MAINS SHALL BE PROVIDED WITH A 10" MINIMUM HIGH DRIP LEG FROM THE BOTTOM OF

STEAM MAIN TO TRAP INLET. DRIP LEG SHALL HAVE 6" SCALE

100% SUBMITTAL **FULLY SPRINKLERED** 

- 1" GATE VALVE

REVISIONS Revision # Description Date SUBMISSIONS 65% DESIGN DEVELOPMENT 1-23-15 95% CONSTRUCTION DOCUMENTS 2-25-15 100% SUBMITTAL DOCUMENTS 5-29-15

9-25-15

**United States Department of** Veterans Affairs R. L. Roudebush VAMC 1481 West 10th Street Indianapolis, Indiana 46202

ARCHITECT/ENGINEERS: O STRUCTUREPOINT INC. www.structurepoint.com

Raleigh, NC Indianapolis, IN Philadelphia, PA TEL 317.547.5580 FAX 317.543.0270 www.acg-pa.com Apogee Project # 13-276

USFin Development, LLC 1105 West Weir Street Litchfield, IL 62056

CONSULTANTS

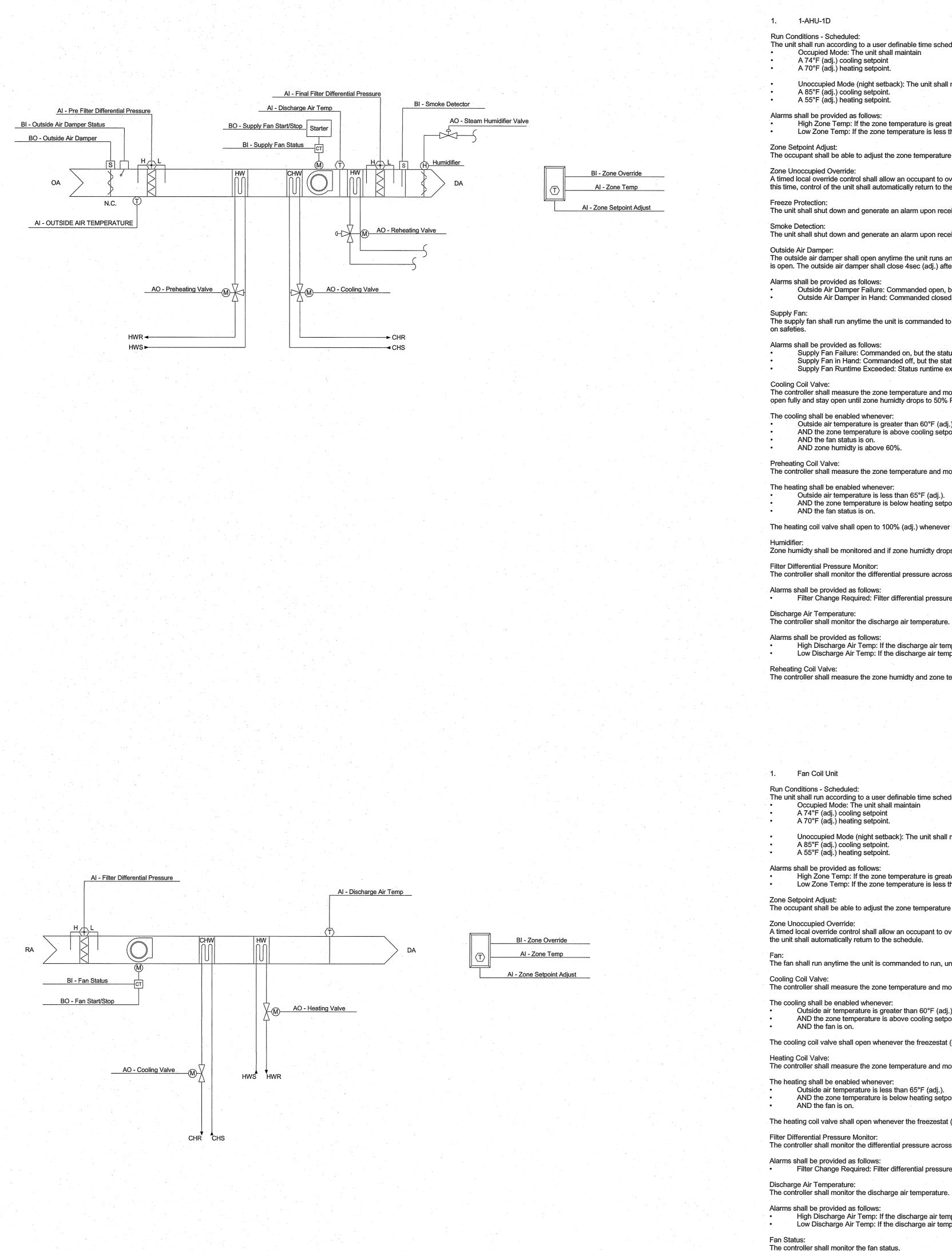


awing Title  MECHANICAL DETAILS	Project Title  EXPAND SPE  CARE	CIALTY		Project Number V.A. 583-331  Building Number 1
proved: Project Director	Location R. L. Roudebush \	/AMC, India	napolis, IN	Drawing Number
	Date 09-25-15	Checked RCM	Drawn ACK	1-M-503 11FY14

Office of Construction and Facilities Management

VA Department of Veterans Affairs

BID DOCUMENTS VA FORM 08-6231



1. 1-AHU-1D Run Conditions - Scheduled: The unit shall run according to a user definable time schedule in the following modes: Occupied Mode: The unit shall maintain A 74°F (adj.) cooling setpoint A 70°F (adj.) heating setpoint. Unoccupied Mode (night setback): The unit shall maintain A 85°F (adj.) cooling setpoint. A 55°F (adj.) heating setpoint. Alarms shall be provided as follows: High Zone Temp: If the zone temperature is greater than the cooling setpoint by a user definable amount (adj.). Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.). Zone Setpoint Adjust: The occupant shall be able to adjust the zone temperature heating and cooling setpoints at the zone sensor. A timed local override control shall allow an occupant to override the schedule and place the unit into an occupied mode for an adjustable period of time. At the expiration of this time, control of the unit shall automatically return to the schedule. Freeze Protection: The unit shall shut down and generate an alarm upon receiving a freezestat status. The unit shall shut down and generate an alarm upon receiving a smoke detector status. Outside Air Damper: The outside air damper shall open anytime the unit runs and shall close anytime the unit stops. The supply fan shall start only after the damper status has proven the damper is open. The outside air damper shall close 4sec (adj.) after the supply fan stops. Alarms shall be provided as follows: Outside Air Damper Failure: Commanded open, but the status is closed. Outside Air Damper in Hand: Commanded closed, but the status is open. The supply fan shall run anytime the unit is commanded to run. To prevent short cycling, the supply fan shall have a user definable (adj.) minimum runtime, unless shutdown Alarms shall be provided as follows: Supply Fan Failure: Commanded on, but the status is off. Supply Fan in Hand: Commanded off, but the status is on. Supply Fan Runtime Exceeded: Status runtime exceeds a user definable limit (adj.). The controller shall measure the zone temperature and modulate the cooling coil valve to maintain its cooling setpoint. If zone humidty is above 60%, cooling coil valve shall open fully and stay open until zone humidty drops to 50% RH. The cooling shall be enabled whenever: Outside air temperature is greater than 60°F (adj.). AND the zone temperature is above cooling setpoint. AND the fan status is on. AND zone humidty is above 60%. The controller shall measure the zone temperature and modulate the preheating coil valve to maintain its heating setpoint. The heating shall be enabled whenever: Outside air temperature is less than 65°F (adj.). AND the zone temperature is below heating setpoint. AND the fan status is on. The heating coil valve shall open to 100% (adj.) whenever the freezestat is on. Zone humidty shall be monitored and if zone humidty drops to 35%, the steam humidifier valve shall modulate open and remain open until the zone humidty is 45%. Filter Differential Pressure Monitor: The controller shall monitor the differential pressure across the pre and final filters. Alarms shall be provided as follows: Filter Change Required: Filter differential pressure exceeds a user definable limit (adj.). Discharge Air Temperature: The controller shall monitor the discharge air temperature. Alarms shall be provided as follows: High Discharge Air Temp: If the discharge air temperature is greater than 120°F (adj.). Low Discharge Air Temp: If the discharge air temperature is less than 40°F (adj.). The controller shall measure the zone humidty and zone temperature and modulate the reheating coil to maintain zone temperature at setpoint.

 Fan Coil Unit Run Conditions - Scheduled: The unit shall run according to a user definable time schedule in the following modes: Occupied Mode: The unit shall maintain A 74°F (adj.) cooling setpoint A 70°F (adj.) heating setpoint. Unoccupied Mode (night setback): The unit shall maintain A 85°F (adj.) cooling setpoint. A 55°F (adj.) heating setpoint. Alarms shall be provided as follows: High Zone Temp: If the zone temperature is greater than the cooling setpoint by a user definable amount (adj.). Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.). Zone Setpoint Adjust: The occupant shall be able to adjust the zone temperature heating and cooling setpoints at the zone sensor. A timed local override control shall allow an occupant to override the schedule and place the unit into an occupied mode for an adjustable period of time. At the expiration of this time, control of the unit shall automatically return to the schedule. The fan shall run anytime the unit is commanded to run, unless shutdown on safeties. The controller shall measure the zone temperature and modulate the cooling coil valve to maintain its cooling setpoint. The cooling shall be enabled whenever: Outside air temperature is greater than 60°F (adj.). AND the zone temperature is above cooling setpoint. AND the fan is on. The cooling coil valve shall open whenever the freezestat (if present) is on. The controller shall measure the zone temperature and modulate the heating coil valve to maintain its heating setpoint. The heating shall be enabled whenever: Outside air temperature is less than 65°F (adj.). AND the zone temperature is below heating setpoint. The heating coil valve shall open whenever the freezestat (if present) is on. Filter Differential Pressure Monitor: The controller shall monitor the differential pressure across the filter. Alarms shall be provided as follows: Filter Change Required: Filter differential pressure exceeds a user definable limit (adj.). Discharge Air Temperature:

	На	rdwai	re Po	ints			Softw				
Point Name		AO	BI	во	AV	BV	Loop	Sched	Trend	Alarm	Show On Graphic
Zone Temp	. X								Х	1-1	X
Zone Setpoint Adjust	Х										X
PRE Filter Differential Pressure	х								х		X
Final Filter Differential Pressure	· X						-		х		х
Discharge Air Temp	Х						·		х	-	X
Cooling Valve	-	Х						<u> </u>	Х		Х
Preheating Valve		Х			<b>1</b>				х		Х
Reheating Valve		Х							х	-	×
Zone Override			Х				·	·	х	-	Х
Freezestat			Х							X	X
Smoke Detector			· X			-				Х	х
Outside Air Damper Status			х						х		Х
Supply Fan Status		-	Х						х		Х
Outside Air Damper	·			х				·	х		х
Supply Fan Start/Stop				х					х		х
Schedule								×			
Heating Setpoint					·.				х		x
Cooling Setpoint								-	х		х
High Zone Temp									:	х	
Low Zone Temp					-					· X	
Outside Air Damper Failure			·							Х	: .
Outside Air Damper in Hand										Х	
Supply Fan Failure							-		÷	Х	
Supply Fan in Hand										Х	
Supply Fan Runtime Exceeded			-							X	
Pre-filter Change Required					·.					Х	
Final Filter Change Required										X	
High Discharge Air Temp								· .		Х	
Low Discharge Air Temp										Х	
Outside Air Temperature	х								х		Х
Steam Humidifier Valve		X						-			х
Totals	6	4	-5	2	0	0	0	1	14	14	19

Total Hardware (17)

Total Software (29)

	Ha	rdwai	re Po	ints			Softw				
Point Name	Al	AO	ВІ	во	AV	BV	Loop	Sched	Trend	Alarm	Show On Graphic
Zone Temp	x X								Х		<b>X</b>
Zone Setpoint Adjust	х										х
Filter Differential Pressure	х								Х		х
Discharge Air Temp	х				·			-	Х		Х
Cooling Valve		х							х		х
Heating Valve		х				,			X		x
Zone Override			х			,			X		х
Fan Status			Х							-	Х
Fan Start/Stop				х					Х		Х
Schedule				-				Х			
Heating Setpoint									х	-	X
Cooling Setpoint									х		х
High Zone Temp										X	
Low Zone Temp										X	
Filter Change Required	-								-	Х	
High Discharge Air Temp										X	
Low Discharge Air Temp										х	
Fan Failure										Х	
Fan in Hand										Х	
Fan Runtime Exceeded									-	х	
Totals	4	2	2	1		0	0	1	9	8	11

i otal Hardware (9)

Total Software (18)

100% SUBMITTAL **FULLY SPRINKLERED** 

Revision # Description Date SUBMISSIONS 65% DESIGN DEVELOPMENT 2-25-15 5-29-15 95% CONSTRUCTION DOCUMENTS 100% SUBMITTAL DOCUMENTS BID DOCUMENTS 9-25-15

**REVISIONS** 

VA FORM 08-6231

**United States Department of** Veterans Affairs R. L. Roudebush VAMC 1481 West 10th Street Indianapolis, Indiana 46202

O STRUCTUREPOINT INC. 7260 SHADELAND STATION INDIANAPOLIS, IN 46256-3957 TEL 317.547.5580 FAX 317.543.0270 www.structurepoint.com

ARCHITECT/ENGINEERS:

Alarms shall be provided as follows:

Raleigh, NC Indianapolis, IN Philadelphia, PA APOGEE
Consulting Group
www.acg-pa.com
Pittsburgh, PA
Virginia Beach, VA
Fort Collins, CO
(919) 858-7420 Apogee Project # 13-276

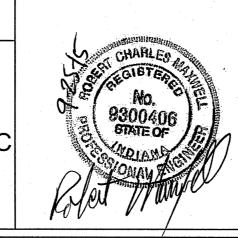
Fan Failure: Commanded on, but the status is off.

Fan in Hand: Commanded off, but the status is on.

High Discharge Air Temp: If the discharge air temperature is greater than 120°F (adj.). Low Discharge Air Temp: If the discharge air temperature is less than 40°F (adj.).

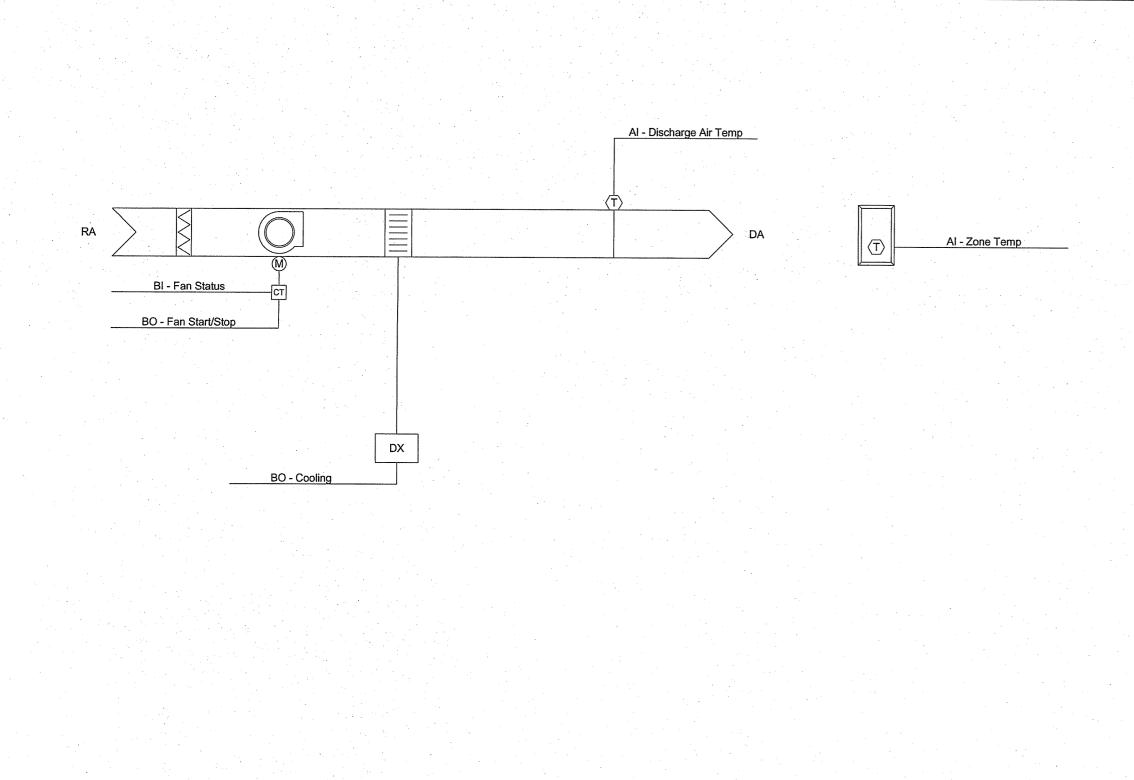
> USFin Development, LLC 1105 West Weir Street Litchfield, IL 62056

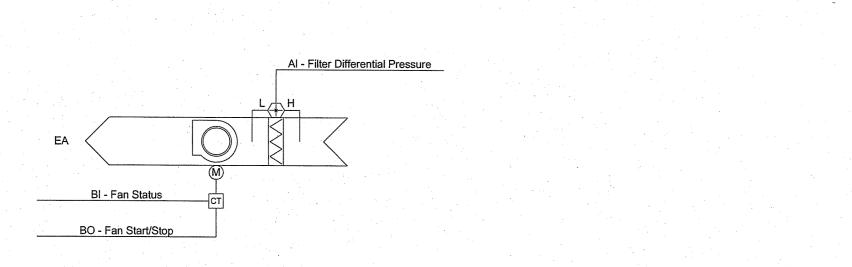
CONSULTANTS

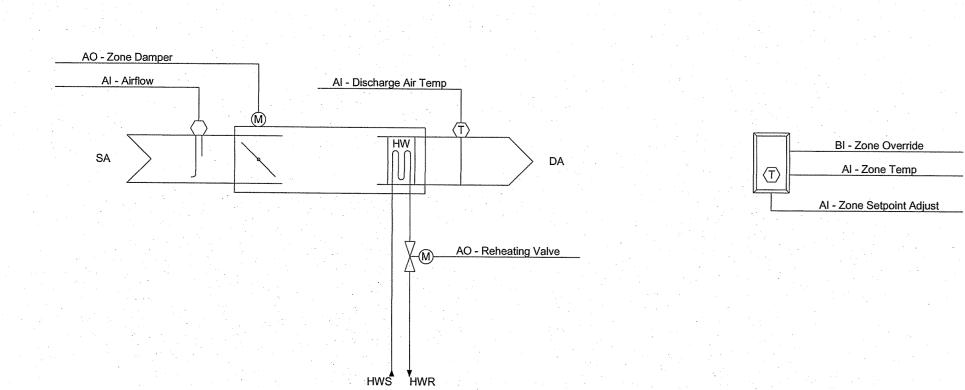


Drawing Title
CONTROL DETAILS
Approved: Project Director

Drawing Title CONTROL DETAILS	EXPAND SF CARE	PECIALTY		Project Number V.A. 583-331  Building Number 1	Office of Construction and Facilities
Approved: Project Director	R. L. Roudebus	h VAMC, India	napolis, IN	Drawing Number	Management
	Date 09-25-15	Checked RCM	Drawn ORD	1-M-504 11FY14	VA Department of Veterans Affairs







## Ductless Split Air Conditioners Run Conditions - Scheduled:

The unit shall run according to a user definable time schedule in the following modes: Occupied Mode: The unit shall maintain

A 74°F (adj.) cooling setpoint A 70°F (adj.) heating setpoint.

Unoccupied Mode (night setback): The unit shall maintain

A 85°F (adj.) cooling setpoint. A 55°F (adj.) heating setpoint.

Alarms shall be provided as follows: High Zone Temp: If the zone temperature is greater than the cooling setpoint by a user definable amount (adj.). Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.).

The occupant shall be able to adjust the zone temperature heating and cooling setpoints at the zone sensor.

The fan shall run anytime the unit is commanded to run, unless shutdown on safeties.

The controller shall measure the zone temperature and modulate the cooling to maintain its cooling setpoint. To prevent short cycling, the stage shall have a user definable (adj.) minimum runtime.

The cooling shall be enabled whenever: the zone temperature is above cooling setpoint.

Discharge Air Temperature: The controller shall monitor the discharge air temperature.

Alarms shall be provided as follows: High Discharge Air Temp: If the discharge air temperature is greater than 65°F (adj.). Low Discharge Air Temp: If the discharge air temperature is less than 40°F (adj.).

Fan Status: The controller shall monitor the fan status.

AND the fan is on.

Alarms shall be provided as follows: Fan Failure: Commanded on, but the status is off. Fan in Hand: Commanded off, but the status is on.

Exhaust Fan - On/Off

The fan shall run continuously.

The fan shall have a user definable (adj.) minimum runtime.

Filter Differential Pressure Monitor: The controller shall monitor the differential pressure across the filter.

Alarms shall be provided as follows: Filter Change Required: Filter differential pressure exceeds a user definable limit (adj.).

Fan Status: The controller shall monitor the fan status.

Alarms shall be provided as follows:

Fan Failure: Commanded on, but the status is off. Fan in Hand: Commanded off, but the status is on. Fan Runtime Exceeded: Fan status runtime exceeds a user definable limit (adj.).

Variable Air Volume - Terminal Unit

Run Conditions - Scheduled: The unit shall run according to a user definable time schedule in the following modes:

 Occupied Mode: The unit shall maintain A 74°F (adj.) cooling setpoint

A 70°F (adj.) heating setpoint. Unoccupied Mode (night setback): The unit shall maintain

A 85°F (adj.) cooling setpoint.

A 55°F (adj.) heating setpoint.

High Zone Temp: If the zone temperature is greater than the cooling setpoint by a user definable amount (adj.).

Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.). Zone Setpoint Adjust:

The occupant shall be able to adjust the zone temperature heating and cooling setpoints at the zone sensor.

A timed local override control shall allow an occupant to override the schedule and place the unit into an occupied mode for an adjustable period of time. At the expiration of this time, control of the unit shall automatically return to the schedule.

Reversing Variable Volume Terminal Unit - Flow Control: The unit shall maintain zone setpoints by controlling the airflow through one of the following:

 When zone temperature is greater than its cooling setpoint, the zone damper shall modulate between the minimum occupied airflow (adj.) and the maximum cooling airflow (adj.) until the zone is satisfied. When the zone temperature is between the cooling setpoint and the heating setpoint, the zone damper shall maintain the minimum When zone temperature is less than its heating setpoint, the controller shall enable heating to maintain the zone temperature at its heating setpoint. Additionally, if warm air is available from the AHU, the zone damper shall modulate between the minimum occupied airflow (adj.) and the

When the zone is unoccupied the zone damper shall control to its minimum unoccupied airflow (adj.). When the zone temperature is greater than its cooling setpoint, the zone damper shall modulate between the minimum unoccupied airflow (adj.) and the maximum cooling airflow (adj.) until the zone is satisfied. When zone temperature is less than its unoccupied heating setpoint, the controller shall enable heating to maintain the zone temperature at the setpoint. Additionally, if warm air is available from the AHU, the zone damper shall modulate between the minimum unoccupied airflow (adj.)

The controller shall measure the zone temperature and modulate the reheating coil valve open on dropping temperature to maintain its heating

Discharge Air Temperature: The controller shall monitor the discharge air temperature.

maximum heating airflow (adj.) until the zone is satisfied.

and the auxiliary heating airflow (adj.) until the zone is satisfied.

Alarms shall be provided as follows: High Discharge Air Temp: If the discharge air temperature is greater than 110°F (adj.).

Low Discharge Air Temp: If the discharge air temperature is less than 45°F (adj.).

	Ha	rdwai	re Poi	ints			Softw	/are Poi	nts		
Point Name	ΑI	AO	BI	во	AV	BV	Loop	Sched	Trend	Alarm	Show On Graphic
Zone Sensor	х								х		х
High Limit					-				·	х	
Low Limit										Х	The state of the s
Totals	1	0	0	0	0	0	0	0	1	2	1
Total Hardware	(1)				1		The course of th	Tota	I Softw:	aro (3)	The procedure conformation is a process of process.

rotai Hardware (1)

Total Software (3)

	Ha	rdwai	re Po	ints		-	Softv	vare Poi	nts	. :	
Point Name	AI	AO	ВІ	во	ΑV	BV	Loop	Sched	Trend	Alarm	Show On Graphic
Filter Differential Pressure	Х								х		х
Fan Status			Х		·				Х		X
Fan Start/Stop				Х					Х		х
Filter Change Required										х	
Fan Failure		:						-		х	
Fan in Hand									·	х	
Fan Runtime Exceeded		-							•	х	
Totals	1	0	1	1	0	0	0	0	3	4	3

Total Hardware (3)

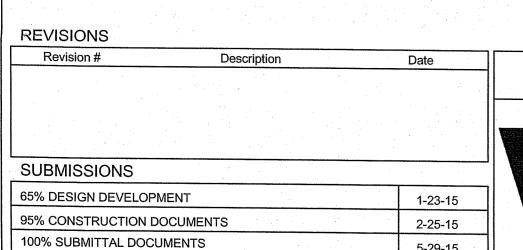
**Total Software (7)** 

	На	rdwar	e Poi	ints			Softw	/are Poi	nts		
Point Name	Al	АО	BI	во	AV	BV	Loop	Sched	Trend	Alarm	Show On Graphic
Zone Temp	х								Х		X
Zone Setpoint Adjust	Х				-				·		X
Airflow	Х								х		X
Discharge Air Temp	х								Х		х
Zone Damper		Χ.									Х
Reheating Valve		Х			-				Х		х
Zone Override		·	X						Х		Х
Airflow Setpoint				·	Х				Х		Х
Heating Mode						Х			Х		
Schedule								Х			entantia de la constanta de la
Heating Setpoint			-						X		X
Cooling Setpoint	-		-						Х		Х
High Zone Temp					-					Х	
Low Zone Temp	-					-				Х	
High Discharge Air Temp										Х	
Low Discharge Air Temp										Х	
Totals	4	2	1	0	1	1	0	1	9	4	10

Total Hardware (7)

Total Software (16)

100% SUBMITTAL **FULLY SPRINKLERED** 



5-29-15

9-25-15

BID DOCUMENTS

VA FORM 08-6231

**United States Department of** Veterans Affairs R. L. Roudebush VAMC 1481 West 10th Street Indianapolis, Indiana 46202

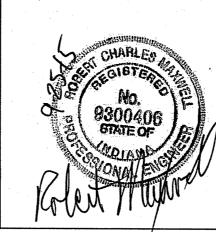
ARCHITECT/ENGINEERS:

7260 SHADELAND STATION INDIANAPOLIS, IN 46256-3957 TEL 317.547.5580 FAX 317.543.0270 www.structurepoint.com

Raleigh, NC Indianapolis, IN Philadelphia, PA Pittsburgh, PA Virginia Beach, VA 🖋 Cansulting Group Fort Collins, CO (919) 858-7420 Apogee Project # 13-276

USFin Development, LLC 1105 West Weir Street Litchfield, IL 62056

CONSULTANTS



			TOLL! OF MINICEL
Drawing Title CONTROL DETAILS	EXPAND SPECIALTY CARE	Project Number V.A. 583-331  Building Number 1	Office of Construction and Facilities
Approved: Project Director	R. L. Roudebush VAMC, Indianapolis, IN	Drawing Number	Management
	Date Checked Drawn 09-25-15 RCM ORD	1-M-505 11FY14	VA Department (

	Ha	rdwai	e Po	ints			Softw	vare Poi	nts		
Point Name	AI	AO	BI	во	AV	BV	Loop	Sched	Trend	Alarm	Show On Graphic
Zone Temp	х								х		x
Zone Setpoint Adjust	Х										Х
Filter Differential Pressure	Х								х		х
Discharge Air Temp	Х								X,		X
Cooling Valve		х							X		Х
Heating Valve		х							х		x
Zone Override		·	Х						x		х
Freezestat		·	Х						х	х	Х
Smoke Detector			Х						x	х	х
Outside Air Damper Status			Х		• .				X.		х
Supply Fan Status			Х						х		* <b>X</b>
Outside Air Damper			-	х					х		х
Supply Fan Start/Stop				х					х		Х
Schedule				-				х			
Heating Setpoint									х		х
Cooling Setpoint									Х		x
High Zone Temp				:						х	
Low Zone Temp										х	
Outside Air Damper Failure										х	
Outside Air Damper in Hand										х	
Supply Fan Failure										х	
Supply Fan in Hand							·			х	
Supply Fan Runtime Exceeded										х	
Filter Change Required										х	
High Discharge Air Temp										х	
Low Discharge Air Temp										х	
Totals	4	2	5	2	0	0	0	1	14	12	15

Total Hardware (13)

Total Software (27)

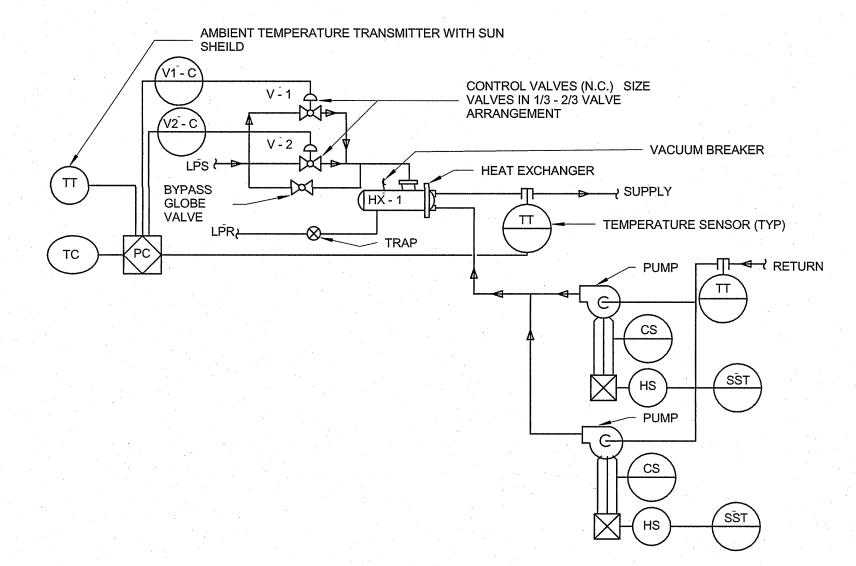
SEQUENCE OF OPERATION:

1. STEAM CONTROL VALVE SHALL MODULATE TO MAINTAIN THE LEAVING HOT WATER TEPMERATURE AT SET POINT.

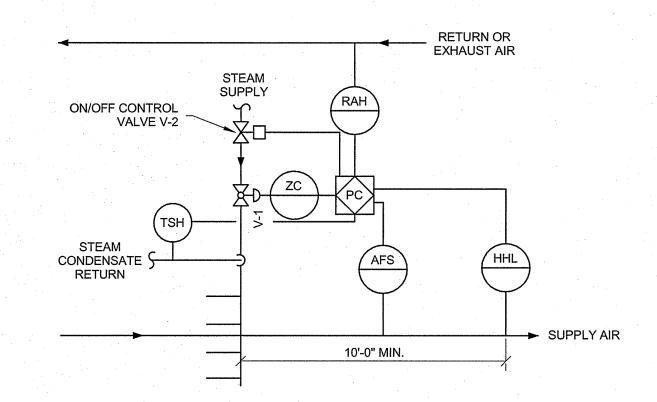
- THE LEAVING HOT WATER TEMPERATURE SHALL BE RESET INVERSELY WITH THE OUTDOOR TEMPERATURE AS SCHEDULED.
- 3. THE LEAD AND LAG PUMPS AND HEAT EXCHANGES SHALL BE SEQUENTIAL BY THE OPERATOR CONTROLS AT THE PPRE-DETERMINED INTERVAL (USUALLY 7 DAYSO. IN THE EVEN THE PUPM START AUTOMATICALLY.

VALVE SEQUENCE:
1. V1 (1/3 CAPACITY) MODULATING FULLY OPEN TO MAINTAIN SET POINT.

- 2. V2 (2/3 CAPACITY) MODULATING FULLY OPEN TO MAINTAIN SET POINT.
- 3. BOTH V1 AND V2 MODULATE TOGETHER TO MAINTAIN SET POINT.







STEAM HUMIDIFIERS:

RETURN (OR EXHAUST) AIR HUMIDITY SHALL BE MONITORED. ON A CALL FOR HUMIDIFICATION, HUMIDIFIÈR VALVE V-1 SHALL MODULATE TO MAINTAIN THE RETURN (OR EXHAUST) AIR HUMIDITY SET POINT TO 30% (ADJUSTABLE). PRIOR TO ACTIVATION OF V-1, THE ON/OFF CONTROL VALVE V-2 SHALL BE ENABLED THROUGH ECC AND JACKET TEMPERATURE SENSED BY TSH SHALL BE WARM ENOUGH TO PREVENT CONDENSATION. THE HIGH LIMIT HUMIDITY SENSOR, LOCATED IN THE SUPPLY AIR DUCT 10 FEET AWAY FROM THE HUMIDIFIER SHALL DISABLE THE HUMIDIFIER AND GIVE AN ALARM SIGNAL TO THE ECC, IF THE SUPPLY AIR HUMIDITY EXCEEDS 90% RH (ADJUSTABLE). THE AIRFLOW SWITCH SHALL PROVE AIRFLOW BEFORE HUMIDITY CONTROLS ARE ACTIVATED.

STEAM HUMIDIFIER CONTROLS

100% SUBMITTAL FULLY SPRINKLERED

REVISIONS Revision # Description SUBMISSIONS 65% DESIGN DEVELOPMENT 1-23-15 2-25-15 95% CONSTRUCTION DOCUMENTS

100% SUBMITTAL DOCUMENTS

BID DOCUMENTS

VA FORM 08-6231

5-29-15

9-25-15

United States Department of Veterans Affairs R. L. Roudebush VAMC 1481 West 10th Street Indianapolis, Indiana 46202

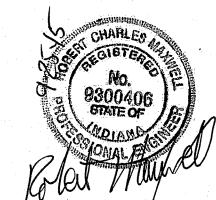
ARCHITECT/ENGINEERS:

O STRUCTUREPOINT

Raleigh, NC Indianapolis, IN Philadelphia, PA 7260 SHADELAND STATION INDIANAPOLIS, IN 46256-3957 TEL 317.547.5580 FAX 317.543.0270 www.structurepoint.com Apogee Project # 13-276

USFin Development, LLC 1105 West Weir Street Litchfield, IL 62056

CONSULTANTS



ving Title CONTROL DETAILS	Project Title  EXPAND SPI  CARE	ECIALTY		Project Number V.A. 583-331  Building Number 1	Office of Construction and Facilities
roved: Project Director	R. L. Roudebush	VAMC, Ind	ianapolis, IN	Drawing Number	Management
	Date 09-25-15	Checked RCM	Drawn JTS	1-M-506 11FY14	Department of Veterans Affairs

												FAN COIL UI	NIT SCHED	ULE												
					• • • • • •			COO	LING				· · ·				HEATING		-		1	ELECT	RICAL	-		
MARK	LOCATION	CFM	MIN OA	TOT. CAP.	SENS. CAP.	EDB	EWB	EWT	LDB	LWB	LWT	FLOW	W.P.D.	TOTAL CAPACITY	EDB	LDB	EWT	LWT	FLOW	W.P.D.	VOLATGE	PHASE	MCA	MOCP	OPER. WEIGHT	REMARKS
									1. 1.					-												
:U8-8101	WAITING - C-8101	125 CFM	30 CFM	4900 Btu/h	3100 Btu/h	80 °F	67 °F	42 °F	58 °F	57 °F	55 °F	1.1 GPM	6.5 ftH2O	3000 Btu/h	60 °F	81 °F	180 °F	171 °F	0.6 GPM	0.1 ftH2O	115 V	1	3 A	15 A	75 lb	
U8-8103	B.H. EXAM 4 - C-8103	260 CFM	35 CFM	4900 Btu/h	4200 Btu/h	80 °F	67 °F	42 °F	58 °F	57 °F	55 °F	0.6 GPM	0.7 ftH2O	4300 Btu/h	60 °F	79 °F	180 °F	177 °F	2.8 GPM	1.3 ftH2O	115 V	1	3 A	15 A	75 lb	
SU8-8104	B.H. EXAM 3 - C-8104	200 CFM	35 CFM	4800 Btu/h	3800 Btu/h	80 °F	67 °F	42 °F	58 °F	57 °F	55 °F	0.6 GPM	2.6 ftH2O		60 °F	79 °F	180 °F	178 °F	3.7 GPM	2.1 ftH2O	115 V	1	3 A	15 A	75 lb	
CU8-8105	B.H. EXAM 2 - C-8105	200 CFM	35 CFM	4800 Btu/h	3800 Btu/h	80 °F	67 °F	42 °F	58 °F	57 °F	55 °F	0.6 GPM	2.6 ftH2O	4300 Btu/h	60 °F	79 °F	180 °F	177 °F	3.7 GPM	2.1 ftH2O	115 V	1	3 A	15 A	75 lb	
CU8-8106	B.H. EXAM 1 - C-8106	185 CFM	30 CFM	5700 Btu/h	3500 Btu/h	80 °F	67 °F	42 °F	59 °F	57 °F	53 °F	0.5 GPM	1.4 ftH2O	4000 Btu/h	60 °F	80 °F	180 °F	165 °F	0.5 GPM	0.1 ftH2O	115 V	1	3 A	15 A	103 lb	
U8-8110	OFFICE - C-8110	165 CFM	25 CFM	3600 Btu/h	3100 Btu/h	80 °F	67 °F	42 °F	58 °F	57 °F	55 °F	0.4 GPM	1.3 ftH2O	3600 Btu/h	60 °F	79 °F	180 °F	172 °F	0.9 GPM	0.2 ftH2O	115 V	1	3 A	15 A	75 lb	
CU8-8111	CUBICLES - C-8111	470 CFM	85 CFM	15100 Btu/h	11000 Btu/h	80 °F	67 °F	42 °F	60 °F	58 °F	56 °F	2.2 GPM	2.1 ftH2O	11800 Btu/h	60 °F	81 °F	180 °F	165 °F	1.6 GPM	1.3 ftH2O	115 V	1	6 A	15 A	172 lb	
U8-8112	TEAM ROOM - C-8112	100 CFM	25 CFM	2100 Btu/h	2100 Btu/h	80 °F	67 °F	42 °F	58 °F	57 °F	55 °F	0.5 GPM	0.3 ftH2O	2900 Btu/h	60 °F	80 °F	180 °F	169 °F	0.5 GPM	0.1 ftH2O	115 V	1	3 A	15 A	75 lb	
U8-8113 CONFE	ERENCE / BREAK ROOM - C-8113	460 CFM	150 CFM	15100 Btu/h	11200 Btu/h	80 °F	67 °F	42 °F	60 °F	58 °F	56 °F	2.4 GPM	1.7 ftH2O	10200 Btu/h	60 °F	80 °F	180 °F	154 °F	0.8 GPM	0.4 ftH2O	115 V	1	6 A	15 A	172 lb	
U8-8114	TRIAGE ROOM - C-8114	130 CFM	35 CFM	4100 Btu/h	2800 Btu/h	80 °F	67 °F	42 °F	58 °F	57 °F	55 °F	0.7 GPM	2.8 ftH2O	3000 Btu/h	60 °F	81 °F	180 °F	171 °F	0.7 GPM	0.1 ftH2O	115 V	1.	3 A	15 A	75 lb	
U8-8115	EXAM ROOM 1 - C-8115	135 CFM	40 CFM	4200 Btu/h	2900 Btu/h	80 °F	67 °F	42 °F	58 °F	57 °F	55 °F	0.7 GPM	3.0 ftH2O	3100 Btu/h	60 °F	82 °F	180 °F	174 °F	1.0 GPM	0.2 ftH2O	115 V	1	3 A	15 A	75 lb	
U8-8117	EXAM ROOM 2 - C-8117	115 CFM	40 CFM	5400 Btu/h	3600 Btu/h	80 °F	67 °F	42 °F	58 °F	57 °F	55 °F	0.9 GPM	1.8 ftH2O	2700 Btu/h	60 °F	81 °F	180 °F	169 °F	0.5 GPM	0.1 ftH2O	115 V	1	3 A	15 A	75 lb	
CU8-8118	EXAM ROOM 3 - C-8118	300 CFM	40 CFM	7100 Btu/h	5600 Btu/h	80 °F	67 °F	42 °F	62 °F	60 °F	58 °F	0.9 GPM	1.4 ftH2O	6400 Btu/h	60 °F	81 °F	180 °F	170 °F	1.3 GPM	0.5 ftH2O	115 V	1	4 A	15 A	133 lb	
U8-8119	EXAM ROOM 4 - C-8119	210 CFM	35 CFM	5800 Btu/h	4800 Btu/h	80 °F	67 °F	42 °F	59 °F	57 °F	53 °F	0.6 GPM	1.4 ftH2O	4500 Btu/h	60 °F	80 °F	180 °F	171 °F	1.0 GPM	0.3 ftH2O	115 V	1	3 A	15 A	103 lb	
CU8-8120	EXAM ROOM 5 - C-8120	295 CFM	35 CFM	7000 Btu/h	5700 Btu/h	80 °F	67 °F	42 °F	62 °F	60 °F	58 °F	0.9 GPM	1.3 ftH2O	6300 Btu/h	60 °F	80 °F	180 °F	168 °F	1.0 GPM	0.4 ftH2O	115 V	. 1	4 A	15 A	133 lb	
CU8-8121	EXAM ROOM 6 - C-8121	210 CFM	35 CFM	5800 Btu/h	4800 Btu/h	80 °F	67 °F	42 °F	59 °F	57 °F	53 °F	0.6 GPM	1.4 ftH2O	4500 Btu/h	60 °F	80 °F	180 °F	141 °F	1.0 GPM	0.3 ftH2O	115 V	1	3 A	15 A	103 lb	
U8-8122	EXAM ROOM 7 - C-8122	250 CFM	40 CFM	6000 Btu/h	4300 Btu/h	80 °F	67 °F	42 °F	58 °F	57 °F	55 °F	1.0 GPM	6.1 ftH2O	6800 Btu/h	60 °F	90 °F	180 °F	156 °F	0.6 GPM	0.1 ftH2O	115 V	1	3 A	15 A	75 lb	
CU8-8124	EXAM ROOM 8 - C-8124	250 CFM	40 CFM	6000 Btu/h	4300 Btu/h	80 °F	67 °F	42 °F	58 °F	57 °F	55 °F	0.9 GPM	6.1 ftH2O	6800 Btu/h	60 °F	90 °F	180 °F	156 °F	0.6 GPM	0.1 ftH2O	115 V	1	3 A	15 A	75 lb	-
CU8-8125	EXAM ROOM 9 - C-8125	180 CFM	35 CFM	5700 Btu/h	4100 Btu/h	80 °F	67 °F	42 °F	59 °F	57 °F	53 °F	1.0 GPM	1.4 ftH2O	4000 Btu/h	60 °F	80 °F	180 °F	166 °F	0.6 GPM	0.1 ftH2O	115 V	1	3 A	15 A	103 lb	<del></del>
U8-8126	EXAM ROOM 10 - C-8126	290 CFM	40 CFM	6900 Btu/h	5700 Btu/h	80 °F	67 °F	42 °F	62 °F	60 °F	58 °F	0.9 GPM	1.3 ftH2O	6200 Btu/h	60 °F	80 °F	180 °F	166 °F	0.9 GPM	0.3 ftH2O	115 V	1	4 A	15 A	133 lb	
U8-8127	EXAM ROOM 11 - C-8127	185 CFM	35 CFM	5700 Btu/h	4200 Btu/h	80 °F	67 °F	42 °F	58 °F	57 °F	55 °F	0.9 GPM	1.4 ftH2O	3900 Btu/h	60 °F	80 °F	180 °F	178 °F	2.3 GPM	0.1 ftH2O	115 V	1	3 A	15 A	75 lb	
U8-8128	EXAM ROOM 12 - C-8128	265 CFM	35 CFM	6900 Btu/h	5700 Btu/h	80 °F	67 °F	42 °F	62 °F	60 °F	58 °F	0.9 GPM	1.2 ftH2O	5800 Btu/h	60 °F	79 °F	180 °F	160 °F	0.6 GPM	0.1 ftH2O	115 V	1	4 A	15 A	133 lb	• .
U8-8131	WAITING - C-8131	500 CFM	100 CFM	14100 Btu/h	11000 Btu/h	80 °F	67 °F	42 °F	60 °F	58 °F	56 °F	2.4 GPM	2.0 ftH2O	11200 Btu/h	60 °F	80 °F	180 °F	160 °F	1.1 GPM	0.7 ftH2O	115 V	1	6 A	15 A	172 lb	
CU8-C1	CORRIDOR - C-8-C1	300 CFM	300 CFM	7100 Btu/h	5600 Btu/h	80 °F	67 °F	42 °F	59 °F	57 °F	53 °F	0.9 GPM		6400 Btu/h	60 °F	81 °F	180 °F	170 °F	1.3 GPM	0.5 ftH2O	115 V	1	3 A	15 A	103 lb	
CU8-C2	CORRIDOR - C-8-C2	120 CFM	120 CFM	5400 Btu/h	3600 Btu/h	80 °F	67 °F	42 °F	58 °F	57 °F	55 °F	0.9 GPM		2700 Btu/h	60 °F	81 °F	180 °F	169 °F	<del></del>	0.1 ftH2O	115 V	1	3 A	15 A	75 lb	

						-		FAN SCHED	ULE				overes established to the second				vice and the second	
MARK	1	BUILDING/AR EA SERVED	SERVICE	AIRFLOW	TYPE	ESP	CLASS	ARRANGEMENT, ROTATION, AND DISCHARGE	MIN % EFF	DRIVE	FAN MAX RPM	ВНР	HP (W)	PHASE	VOLT	R.P.M.	SPEED CONTROL	REMARKS
1-EF-26D	ROOF	PHARMACY	EXHAUST	2000 CFM	UTILITY	1.00 in-wg	2	10, CW, BAU	44%	BELT	2386	0.77	1	3	460	1725	NO	
1-SF-1	ROOF	PHARMACY	SUPPLY AIR	2100 CFM	CENTRIFUGAL PLENUM	3.60 in-wa	2	- CW PLENUM	87 %	DIRECT	n	17	2	3	480	2353	CV	80 HZ

<u></u>																	
					: 			AIR HANDL	ING UNIT SC	HEDULE		-					
MARK	LOCATION	AREA AND/OR BLDG SERVED	TYPE	SUPPLY	AIRFLOW MIN OA	T : : : : : : : : : : : : : : : : : : :	SUPPLY FAN MARK		EXHAUST FAN MARK	1	AFTER FILTER MARK	FINAL FILTER MARK	PREHEAT COIL MARK	COOLING COIL MARK	RE-HEAT COIL MARK	HUMIDIFIER MARK	REMARKS
1-AHU-1D	ROOF	PHARMACY	PRE-ENGINEERED	2100 CFM	2100 CFM	0 CFM	1-SF-1	NA	NA	1-PF-1D	NA	1-FF-1D	1-PHC-1	1-CC-1	1-RHC-1	NA	

						НО	T WATER	HEATING C	OIL SCHEDULE						
	-	AREA AND/OR	SYSTEM AIR		MAX FACE		TEMPE	RATURES	TOTAL		FLUID (5	0% GLYC	OL)		
MARK	LOCATION	ROOM SERVED	HANDLING	AIRFLOW	VELOCITY	APD	EAT	LAT	CAPACITY	FLOW	EWT	LWT	WPD (FT HD)	REMARKS	
1-PHC-1	ROOF	PHARMACY	1-RTU-1D	2100 CFM	600 FPM	0.53 in-wg	-10 °F	41 °F	133600 Btu/h	15 GPM	180 °F	160 °F	5.5		-
1-RHC-1	ROOF	PHARMACY	1-RTU-1D	2100 CFM	500 FPM	0.05 in-wg	35 °F	90 °F	129300 Btu/h	12 GPM	180 °F	155 °F	2.8		

							СН	ILLED W	ATER C	OOLING (	COIL SCHEDULE				:		
		BUILDING	SYSTEM AIR		MAX FACE	-	EA	T	L	.AT	CAPA	CITY		FLUID (	50% GL	YCOL)	
MARK	LOCATION	SERVED	HANDLING	AIRFLOW	VELOCITY	APD	DB	WB	DB	WB	TOTAL	SENSIBLE	FLOW	EWT	LWT	WPD (FT HD)	REMARKS
							-		-	4							
1-CC-1	ROOF	PHARMACY	1-RTU-1D	2100 CFM	450 FPM	0.44 in-wg	100.0 °F	78.0 °F	54.0 °F	54.0 °F	161200.0 Btu/h	96100.0 Btu/h	46 GPM	45 °F	53 °F	10	

						AIR FILT	TER SCHEDULE					
· .			SYSTEM				APD			CARTE	RIDGES	
MARK	LOCATION	AREA AND/OR BLDG SERVED	AND/OR SERVICE	MERV RATING	AIRFLOW	INITIAL	CHANGEOVER	HOUSING TYPE	#	SIZE	ARRANGEMENT	REMARKS
1-PF-1D	ROOF	PHARMACY	1-RTU-1D	MERV 8	2100 CFM	0.20 in-wg	0.70 in-wg	SIDE	2	24X24X2	2 WIDE BY 1 HIGH	HEPA, BAG IN / BAG OUT
1-FF-1D	ROOF	PHARMACY	1-RTU-1D	MERV 17	2100 CFM	1.00 in-wg	1.50 in-wg	SIDE	2	24X24X12	2 WIDE BY 1 HIGH	HEPA, BAG IN / BAG OUT

									· · · · · · · · · · · · · · · · · · ·	IYDRONIC PI	JMP SCHEDULE					
						· · · (	CIRCULATIN	NG FLUID	-		ELECTRICAL MOTOR					
MARK	LOCATION	BLDG SERVED	SYSTEM	TYPE	FLUID	FLOW	HEAD	NPSH AVAILABLE	TEMPERATURE	MIN % EFF	NOMINAL POWER (HP)	PHASE	E VOLT	R.P.M.	SPEED CONTROL	REMARKS
1-CP-1	PENTHOUSE	BLDG 1	CHILLED WATER	INLINE	25% GLYCOL	48.0 GPM	30 ftH2O	5 ftH2O	45 °F	56%	1	3	460	1725	NO	PROVIDE CONTROL PANEL WITH DISCONNECT, STARTERS AND CONTROLS FOR 1-CP-1 AND 1-CP-2.
1-CP-2	PENTHOUSE	BLDG 1	CHILLED WATER	INLINE	25% GLYCOL	48.0 GPM		5 ftH2O	45 °F	56%	. 1	3	460	1725	NO	TROVIDE CONTROL FANLE WITT DISCONNECT, STARTERS AND CONTROLS FOR 1-CF-1 AND 1-CF-2.
1-HP-1 1-HP-2	PENTHOUSE PENTHOUSE	BLDG 1 BLDG 1	HOT WATER HOT WATER	INLINE	25% GLYCOL 25% GLYCOL	28.0 GPM 28.0 GPM		5 ftH2O 5 ftH2O	180 °F 180 °F	50%	1	3	460 460	1725 1725	NO NO	PROVIDE CONTROL PANEL WITH DISCONNECT, STARTERS AND CONTROLS FOR 1-HP-1 AND 1-HP-2.

							STEAM HUMI	DIFIER SCH	IEDULE	-							- · ·
MARK	LOCATION	SYSTEM AIR HANDLING	HUMIDIFER TYPE	AIR FLOW	# OF MANIFOLDS	DB WB	DEWPOINT [	LAT DEWPOINT	SOURCE		STEAM PRESSURE ENT HEATER	· .	CONTROL TYPE	TRAP CAPACITY (LBS/H)R		REMARKS	-
1-SH-1	D-6010	1-RTU-1D	DUCT MOUNTED DISPERSION TUBE	·		55.0 °F 36.0 °F	0.0 °F		PLANT STEAM	5 psi	0 psi	70	EM	70	STAINLESS S	TEEL DISTRIBUTION T	TUBE

							EX	PANSION TANK SCH	IEDULE					
					SYSTEM TEMPERAT RANGE	URE			FILL PRES					
MARK	LOCATION	SYSTEM	TYPE	APPROX. SYSTEM VOLUME	MIN TEMP MA		1 -1	MAX OPERATING PRESSURE	RELIEF VALVE	AT TANK	MIN VOLUME TANK	MIN BLADDER VOLUME	PIPE SIZE TO TANK	COLD WATER FILL SIZE
1-ET-1	PENTHOUSE	CHILLED WATER	DIAPHRAGM		<del> </del>	200 °F	12.0 psi	35.0 psi	30.0 psi	12.0 psi	7.8 gal	2.4 gal	3/4"	
1-ET-2	PENTHOUSE	HOT WATER	DIAPHRAGM	50 gal	60 °F 2	200 °F	12.0 psi	35.0 psi	30.0 psi	12.0 psi	7.8 gal	2.4 gal	3/4"	

100% SUBMITTAL **FULLY SPRINKLERED** 

**REVISIONS** Revision # Description Date SUBMISSIONS 1-23-15 65% DESIGN DEVELOPMENT

95% CONSTRUCTION DOCUMENTS

100% SUBMITTAL DOCUMENTS

BID DOCUMENTS

**United States Department of** Veterans Affairs R. L. Roudebush VAMC 1481 West 10th Street Indianapolis, Indiana 46202

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Raleigh, NC Indianapolis, IN Philadelphia, PA Pittsburgh, PA Virginia Beach, VA Fort Collins, CO (919) 858-7420

Apogee Project # 13-276

USFin Development, LLC 1105 West Weir Street Litchfield, IL 62056

CONSULTANTS

5	CHARLED	
750	No. No.	
8	STATE OF A	
Kole	J 11/4/W	

Drawing Title  MECHANICAL SCHEDLU
Approved: Project Director

MARK

EGGCRATE

**EGGCRATE** 

LINEAR SLOT DIFFUSER

EGGCRATE

**EGGCRATE** 

PLAQUE SUPPLY

PLAQUE SUPPLY

PLAQUE SUPPLY

	Project Title	
JES	EXPAND SPECIAL CARE	_TY
	Location	

09-25-15

Project Number V.A. 583-331 Drawing Number R. L. Roudebush VAMC, Indianapolis, IN 1-M-601

ACK

Office of Construction and Facilities Management

VA Department of Veterans Affairs

VA FORM 08-6231

2-25-15

5-29-15

9-25-15

RCM

AIR DEVICE SCHEDULE

MAX MAX APD SIZE

20 CFM | 100 CFM | 0.020 in-wg | 6 X 6

20 CFM 200 CFM 0.010 in-wg 12 X 12

200 CFM | 300 CFM | 0.040 in-wg | 24 X 24

500 CFM | 1300 CFM | 0.060 in-wg | 24 X 24

20 CFM 50 CFM 0.010 in-wg 12 X 12

50 CFM 600 CFM 0.010 in-wg 24 X 12

50 CFM 2000 CFM 0.010 in-wg 24 X 24

50 CFM 1000 CFM 0.080 in-wg 12 X 12

101 CFM | 200 CFM | 0.050 in-wg | 24 X 24

201 CFM | 350 CFM | 0.050 in-wg | 24 X 24

PLAQUE SUPPLY 50 CFM 100 CFM 0.025 in-wg 24 X 12

PLAQUE SUPPLY 351 CFM 550 CFM 0.015 in-wg 24 X 24

175 CFM 250 CFM 0.050 in-wg 48 X 6

**NECK/DUCT** 

SIZE

6 X 6

10 X 8

16 X 12

24 x 12

24 x 24

NC FINISH REMARKS

WHITE

20 WHITE

20

20

20

PANEL/FRAME | CONNECTION

11FY14

						SIN	IGLE DUCT	AIR TERMIN	IAL SCHEDULE									
			CVCTEM AID	1/41/		AIRFLOW		<u> </u>		REHEAT	REHEAT	<u> </u>		HF	ATING			
MARK	LOCATION	ROOM SERVED	SYSTEM AIR HANDLING	VAV SIZE	MIN	MAX	REHEAT	CONTROL TYPE	CONTROL SEQUENCE	ELEC	HW	ROWS	EAT DB	LAT DB	EWT	FLOW	CAPACITY	REMARKS
IVI/GCIC	LOOAHON	NOOM CENTED											-					
TU6-6-C1	D-6-C1	CORRIDOR - D-6-C1 & HEALTH TECH STATION - D-6041	AHU-14	8	200 CFM	330 CFM	200 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	1.40 GPM	14000 Btu/h	1, 2
TU6-6-C2	D-6-C2	CORRIDOR - D-6-C2	AHU-13	6	145 CFM	210 CFM	145 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	0.90 GPM	9000 Btu/h	1, 2
ГU6-6-С3/С5	D-6-C4	CORRIDOR - D-6-C3 & WAITING - PRIVATE - D-6022 & ELEV. LOBBY - D-6-C5	AHU-14	8	415 CFM	510 CFM	415 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	2.00 GPM	22000 Btu/h	1, 2
TU6-6002	D-6002	EXAM 5 - D-6002 & CU-D-6001	AHU-13	6	115 CFM	120 CFM	115 CFM	CV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	0.50 GPM	5200 Btu/h	1, 2
TU6-6003	D-6003	EXAM 6 - D-6003	AHU-13	6	95 CFM	170 CFM	95 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	0.70 GPM	6000 Btu/h	1, 2
TU6-6004	D-6004	EXAM 7 - D6004	AHU-13	6	95 CFM	100 CFM	95 CFM	CV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	0.50 GPM	4300 Btu/h	1, 2
TU6-6005	D-6005	EXAM 8 - D-6005	AHU-13	6	95 CFM	150 CFM	95 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	0.70 GPM	6500 Btu/h	1, 2
TU6-6006	D-6006	EXAM 9 / SPECIALITY PROECTURE - D-6006	AHU-13	6	135 CFM	200 CFM	135 CFM	VAV	5°F DEADBAND	- No	Yes	2	55 °F	95 °F	180 °F	0.90 GPM	8700 Btu/h	1, 2
TU6-6007	D-6007	EXAM 10 - D-6007	AHU-13	6	95 CFM	100 CFM	95 CFM	CV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	0.50 GPM	4300 Btu/h	1, 2
TU6-6008	D-6008	EXAM 11 - D-6008	AHU-13	6	95 CFM	100 CFM	95 CFM	CV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	0.50 GPM	4300 Btu/h	1, 2
TU6-6009	D-6009	EXAM 12 - D-6009	AHU-13	6	95 CFM	120 CFM	95 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	0.50 GPM	5200 Btu/h	1, 2
TU6-6010E	D-6010E	INFUSION BAY EAST - D-6010E	AHU-14	10	310 CFM	620 CFM	310 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	2.70 GPM	27000 Btu/h	1, 2
TU6-6010N	D-6010N	INFUSION BAY NORTH - D-6010N	AHU-14	8	390 CFM	560 CFM	390 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	2.50 GPM	24000 Btu/h	1, 2
TU6-6011	D-6011	PRIVATE INFUSION 1 - D-6011	AHU-14	6	105 CFM	115 CFM	105 CFM	CV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	0.50 GPM	5000 Btu/h	1, 2
TU6-6012	D-6010E	PRIVATE INFUSION 2 - D-6012	AHU-14	6	60 CFM	170 CFM	60 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	0.70 GPM	7400 Btu/h	1, 2
TU6-6016	D-6016	NURSE STATION - D-6016 & MED PREP - D-6018 & C.U D-6017	AHU-14	8	255 CFM	380 CFM	255 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	1.70 GPM	16000 Btu/h	1, 2
TU6-6024	D-6-C4	WAITING - GENERAL - D-6024 & CORRIDOR - D-6-C4	AHU-13	10	515 CFM	1000 CFM	515 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	4.30 GPM	43000 Btu/h	1, 2
TU6-6025	D-6025	CHECK IN / OUT - D-6025	AHU-13	8	225 CFM	500 CFM	225 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	2.00 GPM	22000 Btu/h	1, 2
TU6-6028	D-6028	CASE MANAGER - D-6028 & ELECTRICAL ROOM - D-6027	AHU-14	6	265 CFM	275 CFM	265 CFM	CV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	1.20 GPM	12000 Btu/h	1, 2
TU6-6030	D-6030	CHARTING ROOM - D-6030	AHU-14	8	195 CFM	350 CFM	195 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	1.50 GPM	16000 Btu/h	1, 2
TU6-6032	D-6032	EXAM 13 / TELEHEALTH - D-6032	AHU-13	6	105 CFM	120 CFM	105 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	0.50 GPM	52000 Btu/h	1, 2
TU6-6033	D-6-C1	EXAM 14 - D-6033	AHU-13	6	95 CFM	100 CFM	95 CFM	CV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	0.50 GPM	4300 Btu/h	1, 2
TU6-6034	D-6-C1	EXAM 15 - D-6034	AHU-13	6	95 CFM	125 CFM	95 CFM	VAV	5°F DEADBAND	No	Yes	2	.55 °F	95 °F	180 °F	0.50 GPM	5400 Btu/h	1, 2
TU6-6035	D-6035	EXAM 1 / BD - D-6035	AHU-13	6	95 CFM	200 CFM	95 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	1.00 GPM	8700 Btu/h	1, 2
TU6-6036	D-6036	EXAM 2 / BD - D-6036	AHU-13	6	95 CFM	200 CFM	95 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	1.00 GPM	8700 Btu/h	1, 2
TU6-6037	D-6037	EXAM 3 / BD - D-6037	AHU-13	6	95 CFM	200 CFM	95 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	1.00 GPM	8700 Btu/h	1, 2
TU6-6038	D-6037	EXAM 4 / BD - D-6038	AHU-13	-6	95 CFM	200 CFM	95 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	1.00 GPM	8700 Btu/h	1, 2
TU6-6118	D-6118	STAFF LOUNGE - D-6118	AHU-12	8	115 CFM	550 CFM	115 CFM	VAV	5°F DEADBAND	No	Yes	2	55 °F	95 °F	180 °F	2.50 GPM	24000 Btu/h	1, 2

1. CONTROLLERS PROVIDED BY TEMPERATURE CONTROLS CONTRACTOR AND FIELD MOUNTED. 2. CAPACITY SHOWN IS AT MAX FLOW.

				CONDENSING UNIT SCH	EDULE			
TAG	LOCATION	AREA AND/OR ROOM SERVED	COOLING CAPACITY RANGE (BTU)	COMPRESSOR TYPE	POWER	MCA	МОСР	REMARKS
1-CU-1	ROOF	O.I.T./BIOMED - D-6021	12000	DC INVERTER-DRIVEN TWIN ROTARY	208/230, 1, 60	13	15 PROVIDE MOUN	TING BASE AND WIND BAFFLE

				DUCT	LESS S	SPLIT INDOOR	UNIT SCHEDULE		
TAG	LOCATION	AREA AND/OR ROOM SERVED	TYPE	TOTAL CAPACITY	CFM	EAT DB	ELECTRICAL DATA	REMARKS	
1-DSAC-1	D-6021	O.I.T/BIOMED - D-6021	WALL MOUNTED	12000.0 Btu/h	400	75 °F	208/230, 1, 60	PROVIDE WITH CONDENSATE PUMP AND THERMOSTAT	

					STEAM TO HO	T WATER H	EAT ESCHA	NGER SCHED	JLE				
		· · · · · · · · · · · · · · · · · · ·			WATER	CONDITION	S		STEAM PR	RESSURE			TRAP
MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM	TYPE	FLOW	EWT	LWT	WPD	ENT CONTROL VALVE	ENT HEAT EXCHANGER	CONTROL VALVE	#	CAPACITY
1-HX-2	PENTHOUSE	PHARMACY	HOT WATER	SHELL AND TUBE	30.0 GPM	155 °F	180 °F	1.70 ftH2O	8.00 psi	5.0 psi	360 LBS/HR	1-ST-??	720 LBS/HR

					LIQUIE	TO LIQUID	HEAT EXC	HANGER SCH	IEDULE					
			SYSTEM AIR			НОТ	SIDE			COLE	SIDE			
MARK	LOCATION	ROOM SERVED		1 - F	FLOW	EWT	LWT	WPD	FLOW	EWT	LWT	WPD	REMARKS	
1-HX-1	PENTHOUSE	PHARMACY	1-RTU-1D	PLATE AND FRAME		-460 °F		0.00 FT	-460 °F	-460 °F	-460 °F	0.00 FT		

100% SUBMITTAL FULLY SPRINKLERED

SUBMISSIONS 1-23-15 2-25-15 65% DESIGN DEVELOPMENT 95% CONSTRUCTION DOCUMENTS 5-29-15 100% SUBMITTAL DOCUMENTS 9-25-15 BID DOCUMENTS

Description

REVISIONS Revision#

VA FORM 08-6231

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USFin Development, LLC 1105 West Weir Street Litchfield, IL 62056

CONSULTANTS

	Drawing Title  MECHA
	Approved: Project
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g Title ECHANCIAL SCHEDULES	Project Title  EXPAND SPECIALTY		Project Number V.A. 583-331	
				Building Number 1
ed: Project Director	R. L. Roudebush VAMC, Indianapolis, IN			Drawing Number
	Date	Checked	Drawn	1-M-602
	09-25-15	RCM	ACK	11FY14

Office of Construction and Facilities Management